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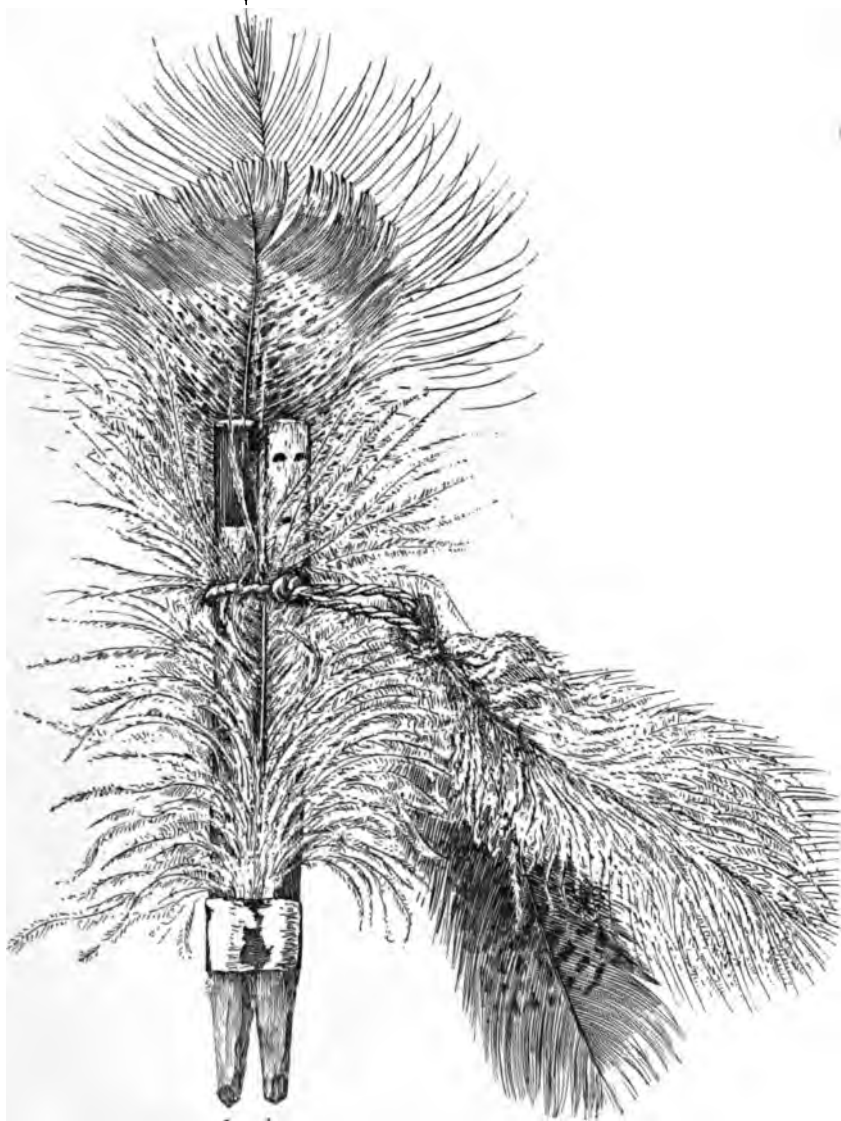
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A Tusayan Pa-ho.

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NO. 1.

ORIGIN OF THE INDIANS.

BY CYRUS THOMAS.

The hope of ultimately solving the great problems of the pre-Columbian times of our continent is perhaps as lively to-day as in former years. But, with the vast increase of knowledge in recent years in reference to the data bearing on these questions, a modification of the hope entertained has taken place. While no thought any longer exists of ascertaining the exact date of or any definite particulars in regard to the migration by which the western continent received its first settlers, yet there is a hope that the advance in scientific knowledge and methods of investigation, together with a more careful study of the data, will result in determining, in a general sense, the age in which this first introduction of population took place, and in deciding what race or races contributed to this population, and the probable route or routes of migration.

The method of treating this subject has been changed from mere theorizing to careful, scientific analysis. The literary world, it is true, is now and then amused by the revival of some old, exploded theory, or the presentation of some new one, equally absurd; but allusion is made here only to those efforts which appear to be based upon some legitimate data.

The tendency at present appears to be to base the tentative efforts in this direction on the linguistic evidence, leaving out of view the important aid to be derived from a careful study of the archaeological data bearing upon the subject, or referring to it only where it seems to corroborate the theories based upon the linguistic evidence. This arises, in part, from the fact that, while the archaeological data relating to a large portion of the continent are few, and archaeology has not, as yet, been reduced to a true science; on the other hand, the linguistic material, though not complete, is much more abundant and the treatment

thereof reduced to true scientific methods. As the latter field affords greater promise of reaching positive conclusions, it is more attractive to methodical students than the other branch.

But in order to reach conclusions most likely to stand the test of future investigation, all the lines of research must be explored, and all the data obtainable, not only from linguistics, but also from archæology, and all the various branches of ethnology, must be brought to our aid. And we must follow, without being wedded to any particular theory, the legitimate conclusions reached by a careful study and comparison of the data thus obtained.

Without referring to the numerous theories which have been advanced in regard to the origin of the aboriginal inhabitants of our continent, I present the following suggestions in reference to what would seem to be the most fruitful lines of research bearing on this question, though not relating directly thereto.

If a careful comparison of the archæological types and of the arts, customs, traditions and languages of the various portions of North America be made, one with another, with special reference to the geographical distribution of types, it will lead to the conclusion that these belong, in a broad and comprehensive sense, to two general classes, the one pertaining to the Pacific slope, the other to the Atlantic. The dividing line between these two great ethnological sections appears to be the extreme eastern range of the Rocky Mountain system, from about 55° north latitude to the Rio Grande, the former, or Pacific system, including all of Mexico and Central America.

While it is true that there are manifest differences between the types and character of the archeological remains, and of the aboriginal customs, arts and languages of different areas in each of these two comprehensive sections; yet, when those of the Pacific slope, which, as we have said, includes Mexico and Central America, taken as a whole, are compared with those of the Atlantic slope, there is such an evident dissimilarity as to strike every one who makes the comparison.

There is not an ethnologist nor, in fact, any close observer, who will fail to distinguish the elaborately carved totem posts of the northwest coast, and the designs carved thereon, from the work of any of the Atlantic tribes. The method of superimposing, in carvings and statues, one figure upon another, usually combining human and animal, is a true Pacific type, found on the western slope (except, perhaps, in California) from Alaska to Nicaragua. The prominent Tlaloc nose of Mexican and Central American figures, which has erroneously been supposed to represent the elephant trunk, is but another form of indicating the same idea as that presented by the prominent bird-bill on the totem posts and in the figures of the tribes of the northwest coast. But these are anomalies if found on the Atlantic slope. So we might speak of the labrets; of peculiar forms of masks; the zig-zag lines in basketry and in the ornamentation

of pottery; the broad, square face figures, one above another, seen on the costume of the Haïka Indian, the Tsimshian and the Tlingit; the boats and houses of the northwest coast, and the similar superimposed Tlaloc faces in the sculpture of the ruined temples and palaces of Yucatan. All of these are unknown to, or are seldom observed among the arts and customs of the Atlantic races, while on the contrary they seem to be, to some extent, but copies of the works of the South Pacific Islanders, especially those of the Melanesian and Polynesian groups. If we turn to the languages of North America, we find the same contrast existing between the families of the eastern and western slopes. One of the latest writers on this subject arranges his larger groups according to this geographical distinction; and he emphasizes this arrangement by the remark, that "There is a distinct resemblance between the two Atlantic groups, and an equally distinct contrast between them and the Pacific groups, extending to temperament, culture and physical traits."

Thus we might, if space would permit us to enter into details, proceed to enumerate numerous types which have prevailed in the distant past or in recent times along the western coast, but are wholly unknown or comparatively rare on the Atlantic side.

The distribution of linguistic stocks in North America and the indications of the lines of migration lead to the same conclusion as that reached by an investigation of the other data. Notwithstanding the oft-repeated suggestion of some relationship between the Mexican tribes and the Mound-builders, yet no relationship whatever has been discovered between any of the Mexican or Central American stocks and those of the eastern slope north of the gulf of Mexico. On the contrary, we find the members of the Maya family extending from the Rio Panuco to the southern border of Guatemala; and those of the great Uto-Aztecan group scattered from the mountains of Nicaragua to the Columbia river. The supposition advanced by some writers that the Shoshone group, and hence the Aztecan, had its origin east of the mountains, is purely conjectural, having no real basis of fact on which to found it unless the line of migration of the members of the Athabaskan family be considered suggestive. It appears to be based wholly on a statement by Dr. Gibbs, who was undoubtedly high authority, that if he should "hazard a conjecture," it would be that this group originated east of the Rocky Mountain range.

The movements of population in the past, so far as indicated by tradition, linguistics, history, and the geographical position of the tribes which pertain to the western slope, appear to have been almost invariably southward, along the coast or between the mountain ranges. Thus we find the Athabaskan stock of the north, which belongs as much to the western division as to the eastern, and appears to be referred to the former by Mr

Bancroft, has pushed its branches southward into New Mexico and the borders of northwestern Mexico. The migrations of the Mexican tribes, according to the most reliable traditions and trustworthy evidence, have been from the northwest. And it is in this direction also we must look for the course of the Mayas, notwithstanding the tradition of their appearance on the eastern shore of Mexico. This, as an almost universal rule, has been the direction of the movements of the tribes of the northwest coast. It is thus that Mr. Powers, in his work on the "Tribes of California," after having previously mentioned the migrations of some individual tribes, summarizes the subject: "I wish to tabulate here some facts which show more plainly than has been done in the report, that California has witnessed a great invasion from the north before the historical period." Abundant evidence to the same effect might be adduced from other authorities, but this is unnecessary. This general trend in the migratory lines is entirely consistent with the physical features of the continent, and is what might have been surmised from these alone. It also agrees with the consensus of opinion among historians and archaeologists.

The significance of this general trend in migration, in connection with the suggestions here made in reference to the lines of investigation, is the strong support it gives to the above classification of types into two great semi-continental groups; and that it serves to explain the spread of peculiar types and customs along the western coast.

The broad and manifest distinctions between the types of the Pacific and Atlantic slopes, dividing the ethnological characteristics of North America into two great classes, form, perhaps, the most sure basis on which to predicate other steps in the investigations regarding the probable origin of the aborigines. If it does not lead us to a solution of the problem of the first introduction of population, it will doubtless aid us in ascertaining the origin of some of the customs, arts, and beliefs which form such puzzling factors in the study of the prehistoric times of our continent. The origin of the semi-civilization of Mexico and Central America, notwithstanding the general assent among students to the theory of its indigenous origin, is still a restless factor, a question, which, like Banquo's ghost, "will not down." Nor is it strange, as every one who enters upon the study of some particular branch relating thereto, is constantly meeting with something which brings up the question, "Can it be that this is entirely of indigenous growth? Has it received no impulse from exterior influence?" If he be a true scientific worker, the ghosts of the thousand and one departed theories rise up before him, and together with the fear of encountering the sarcasm of his co-workers, cause him to smother the natural impulse to follow up the dim ray which he believes has taken upon his pathway. Then the strong opposition of linguists to

that which does not accord with their views forms a barrier which he fears to encounter. Hence it is that students are deterred from expressing the conclusion on this point to which their investigations appear to lead. Even Mr. Bancroft, in his great work, "Native Races of the Pacific States," which is usually pervaded by a broad and liberal spirit, remarks, "It is not at all improbable that Malays, Chinese, or Japanese, or all of them, did at some time appear in what is now North America in such numbers as materially to influence language, but hitherto no Asiatic nor European tongue, excepting always the Eskimo, has been found in America; nor have affinities with any other language of the world been discovered sufficiently marked to warrant the claim of relationship. Theorizers enough there have been, and will be for centuries to come; half-fledged scientists, ignorant of what others have done, or rather have failed to do, will not cease to bring forward wonderful conceptions, striking analogies; will not cease to speculate linguistically, ethnologically, cosmographically, and otherwise to their own satisfaction and to the confusion of their readers."

Nevertheless, even in the face of this protest, we propose to suggest here, not a new, but an old theory, as one which presents a line of investigation, offering, perhaps, greater promise of satisfactory results than any other; it not in regard to the origin of the Indians, at least in reference to the origin of the customs, arts, etc., which distinguish the aborigines of the Pacific slope from those of the Atlantic side.

No one has failed to remark the strong resemblance, in many respects, of the arts, customs, etc., of the people of the west coast, especially of the Haida Indians and cognate tribes, with those of the South Pacific islanders, particularly the Melanesians and Polynesians.

If we compare the arts, customs, and traditions of some of the west coast tribes with those of the South Sea Islanders, we shall find such striking coincidences as to render the supposition that they are accidental highly improbable.

The comparison made by Ensign A. P. Niblack in his recent work, "The Coast Indians of Southern Alaska and Northern British Columbia," between the Maori of New Zealand and the Haida Indians of our northwest coast brings out a series of coincidences which, to say the least, is remarkable. And what renders this comparison of special interest is the fact that it is not made to sustain a theory, as the author is not an advocate of the idea of relationship or even contact between these widely separated tribes. It is thus he briefly summarizes them: "In point of physical resemblance, both are of the Mongoloid type, and both live on groups of islands whose climates are remarkably similar. * * * Their political organization of the tribe, their ownership of land, and their laws of blood revenge are similar. The men tattoo with designs intended to identify them

with their sub-tribe or household and they ornament their canoes, paddles, house fronts, etc., in somewhat the same manner as on the northwest coast. * * * Under the head of "Rain Cloaks" Dixon (1787) is quoted as saying that the cloaks of the Haida and Tlingit were the same as those worn by the New Zealanders. * * * Also a statement [from the same authority] that a Haida fortified house on an island of the Queen Charlotte group was built exactly on the plan of the hipah of the savages of New Zealand * * * and that the adzes of the Tlingit and Haida made of jasper were the same as those used by the New Zealanders. The cloaks of shredded inner bark in the National Museum from New Zealand and the Queen Charlotte Islands are so much alike that it takes a close inspection to distinguish them. In plate XXXII Fig. 167 a New Zealand paddle is reproduced with a few from the northwest coast. The resemblance is marked and interesting. * * * But it is safe to say that while this is not accidental, yet the resemblances and similarities are as likely to have arisen from the like tendencies of the human mind under the same external conditions or environment to develop a long parallel line, as through contact of these tribes or through a common origin."

Prof. W. H. Dall, in the summary to his paper on "Masks and Labrets" in the Third Annual Report of the Bureau of Ethnology, expresses a still more decided view on the subject. His remarks are substantially as follows: We find certain remarkable customs or characteristics geographically spread north and south along the western slope of the continent. These are not primitive customs, but things which appertain to a point considerably above the lowest scale of culture. Some are customs pure and simple, as labritifery; tattooing the chin of adult females; certain uses of masks; etc. Some are characteristics of culture, as a certain style of conventionalizing natural objects; use of conventional designs in a hieroglyphic way; peculiar facility in certain arts, such as carving wood, etc. Some are details of art related to religious or mythological ideas, and some are similar myths themselves.

He also presents good reasons for believing these cannot be of indigenous American growth, but have been impressed upon the inhabitants of the western coast at some time in the prehistoric past by contact with people from Polynesia and Melanesia. "From my point of view," he remarks, "these influences have been impressed upon people already developed to a certain, not very low degree of culture. I have stated why I believe it to have come to the western Innuut since the chief and universal characteristics of that race as a whole were fixed and determined. * * * Of course this influence has not been exerted without contact. My own hypothesis is that it was an incursion from Melanesia via southeastern Polynesia which produced the impact; perhaps more than one. In all proba-

bility, too, it occurred before either Melanesian, Polynesian, or American had acquired his present state of culture or his present geographical distribution. The impulse communicated at one point might be ages in spreading. * * * The mathematical probability of such an interwoven chain of custom and belief being sporadic and fortuitous is so nearly infinitesimal as to lay the burden of proof upon the upholders of the latter proposition."

The latter remark of Prof. Dall has been met with the reply that it amounts to nothing, as these similarities are mere coincidences arising out of similar wants and similar tendencies of the human mind. But this assertion furnishes no adequate explanation of these remarkable similarities in customs, habits, and beliefs; similarities which, in many other cases, are accepted as complete and adequate proof, not only of contact, but also of a common origin. The bearing of the facts presented, on the question at issue cannot be brushed aside by a mere dictum not fortified by evidence or sound reasoning. Even Mr. Hubert Bancroft, notwithstanding his severe criticism of speculations in this line, admits, as we have seen above, that it is not at all improbable that Malays, Chinese, or Japanese, or all of them, did at some time appear in what is now North America in such numbers as materially to influence language. This admission, considering the connection in which it is found, shows beyond doubt that the facts, with which he was familiar, were considered sufficient to warrant the belief in the introduction in the past of a foreign element from the Pacific side. And if to the extent mentioned, it follows this element must have had some influence upon the habits and customs of the tribes with which it came in contact.

The comparison, however, between the customs, types, etc., of the west coast and Pacific regions, does not end with what has been given, as it includes some other items which it would appear impossible to account for on the theory that they are but accidental coincidences, the result of like tendencies of the human mind.

We are informed by the Rev. John Mathew, of Coburg, Victoria, in his able article on "The Australian Aborigines," published in the "Journal and Proceedings of the Royal Society of New South Wales (1889)," that the two leading classes of inhabitants of the northern part of Victoria are designated as the Eagle or Eagle-hawk and the Crow. "The aborigines of the northern part of Victoria," he remarks, "believe that the beings who created all things had severally the forms of the crow and the eagle." Now it is a singular fact that the eagle, or, as some say, wolf or eagle, and the raven are the designation of the leading or primary divisions of the Tlingit. The origin of these two divisions or phratries is assigned by tradition to the two mythological heroes, *Tell* and *Kanuk*, by whom

the Tlingits were created and endowed with the good things of life. This *Tetl* is the raven, and, according to Dr. Franz Boas, who has carefully studied the Tlingit legends, this *Kanuk* is identical with the eagle.

That there may be eagle and crow totems both in Australia and along the northwest coast of North America, is not in itself so very remarkable, but that these should be the designations of the leading divisions of the nations in both these areas, and be connected with similar mythological traditions of each section in regard to creation, is certainly very remarkable, unless we admit the theory of common origin or direct or indirect contact. The remarkable feature of this tradition is increased by the fact that, according to Dr. Boas, the Haida are also divided into two phratries, the eagle and the raven, and that among the Tsimshian, the leading gentes are also the eagle and the raven.

The tradition of the Haida regarding the "Man in the Moon," shows a remarkably close resemblance to that of the New Zealanders relating to the same subject. The former, as given by Ensign Niblack, is as follows:

"Koong, the moon, discovered Eethlinga, the man, about to dip his bucket in the brook for water, so it sent down its arms or rays and grabbed the man, who, to save himself, seized hold of a big solal bush (Gaultheria shallon), but the moon being more powerful took man, bucket and bush up to itself, where they have ever since lived and can be seen every full moon when the weather is clear. The man is a friend of T'kul, the spirit of the winds, and at the proper signal empties his bucket, causing rain upon the earth."

The New Zealand tradition, as given by the Rev. Richard Taylor in his "Te-Ikasa-Mau, or New Zealand and its Inhabitants," is as follows: "A chief named Rona, one night being very thirsty, when his wife was from home, was compelled to go to the spring himself, much to his annoyance, as it was degrading for him to do so; as he went the moon became overcast, and he struck his foot against a stone. In his anger he said, Awhia te puta ai te maraama upoko to nō. "When will the moon make its cocked head appear?" when, being a great curse, caused it immediately to descend, and take both him and his cushion up with it; this is the way the natives account for the spots on its surface." It will be observed that in the Haida tradition the reason for the moon's anger is not given, showing that it is not complete. If given in full, the resemblance might be still stronger.

The close resemblance between the minor, as well as the more important traditions, furnishes very strong evidence in support of the theory of former contact of the peoples of these two regions. And here we use the term "the two regions" in the broad sense, as referring to the western coast of America

and the islands of the Pacific. The number of these resemblances would doubtless be largely increased if the traditions and beliefs of the two sections were fully reported, or even if we had made a thorough and complete comparison of those which have been reported. But sufficient has been presented here to show that the line of investigation indicated is one which gives promise of fruitful results in reference to the origin of the aboriginal customs of the Pacific slope of our continent. Further resemblance is also found in the character and details of their religious dances, their social festivals, etc.

The theory that America received its first inhabitants from the Pacific islands is met by those who oppose it, for the purpose, as is generally the case, of sustaining some pet theory, with the statement that America was peopled long before the Pacific islands had been discovered by the first bold adventurers who launched their frail vessels on the bosom of this broad ocean. Although it is not our intention to discuss here the question of the first peopling of America, or even to advocate that the first people who reached the continent were from the Pacific islands, yet we will refer here to some facts which seem to take the force out of this objection, and to strengthen the theory of an intrusive element from the Pacific islands. It is asserted by a recent authority that the aboriginal race which peopled America was never, at any time before Columbus, influenced in blood, language, or culture by any other race. But this must be received as merely the opinion of one writer, which must be supported by strong proof or valid reasons before it will be accepted, as all the evidence so far adduced appears to be against it. A very slight examination of the data on which this statement is based shows that they consist as yet wholly of theories and surmises, or mere negative evidence, save what is furnished by linguistics. I am fully aware that it is considered untasteful and even unscientific by a certain and not very limited school of scientists for one to express doubt in regard to the very remote date to which the first peopling of the continent is now usually assigned. Nevertheless, I am inclined to think the only limiting factor,—beyond some two or three thousand years,—upon which we can as yet place any reliance, is the minimum time required for the differentiation and evolution of the various aboriginal stocks and dialects of the continent. And this, to bring it to the assured minimum limit, must be predicated upon the theory of the introduction of more than one single linguistic stock. Unfortunately, however, the question of chronology in relation to the formation of languages is yet without any satisfactory answer.

The theory of glacial man in America, which of late has been engaging the attention of numerous students, is, as must be admitted by all who are willing to throw aside for a time their theories and look calmly at the simple facts, based upon such

slender and uncertain data as would be accepted in no other branch of science. In fact it would not be received therein as worthy of consideration. Even the very foundation upon which this supposed evidence rests has recently been so rudely shaken by the investigations of Mr. W. H. Holmes as to render it unsafe and unscientific, to say the least, to predicate any argument upon this theory. Another argument brought against the theory that America was peopled from the Pacific islands is the assumed recent date at which these islands were first peopled. It is claimed that we have proof that at least the eastern islands of Polynesia were peopled at a comparatively recent date, that is to say within two thousand years.

Those who present this argument appear to overlook the fact that the authors who refer to the Pacific islands as the region from which America was peopled do not limit themselves to Polynesia. Quatrefages, in his chart of migration, carries the line to North America from Micronesia by way of the Sandwich Islands. Prof. Dall, who it is proper to state, does not refer to the original peopling of the continent, but to the customs, etc., "impressed" upon the tribes of the western coast, looks more to Melanesia than Polynesia. He remarks that, "The features most akin to those to which, on the western coast of America, particular attention is now called, are evidently related more to those of the Melanesians or predecessors of the Polynesians than to the latter, except so far as the Polynesians have been modified by the customs of their forerunners. This would accord with the greater antiquity which the circumstances seem to require."

Although it is doubtless true that the brown, or lighter race, probably of Malayan origin, found in most of the Pacific islands, reached there, or at least those forming the Polynesian group, at a comparatively recent date, yet, it must be borne in mind, that these were preceded by another and darker race, mostly of the Papuan stock, and evidently closely related to the negro race. This is admitted by most authorities, and, in fact, is proven by abundant evidence. It is even stated in regard to the lighter race that by tradition, history, linguistics and other satisfactory evidence the lines of migration can be traced, point by point, from Micronesia to New Zealand. But at every stopping place these adventurous navigators found the island groups already occupied by a race which had preceded them. When in modern times these groups were visited by European navigators, they were found in most cases inhabited by a mixed race formed by the union of the later with the preceding occupants.

As this was found true in almost every island group from Australia to Marquesas, and from New Zealand to the Sandwich Islands, we have proof beyond question that these early pioneers, though they may have been but rude savages, had

discovered some means of navigating the ocean. If they could thus traverse two-thirds of the width of the Pacific, no good reason can be given why they might not have passed over the remaining third to the shores of America. If their passage from island to island was only by drifting or accident, it is reasonable to suppose that the last third of the distance which separates the continents may have been traversed in the same way. This supposition is especially applicable to the passage to North America, as the course would be directly on the line of the great ocean current. Hence, while it may be that the advent of the brown or lighter race in the Pacific islands, particularly in Polynesia, occurred within the last two thousand years, the peopling by the black race was doubtless long anterior thereto, for their dispersion must necessarily have been by slow stages and numerous long halts. New Zealand appears to have been one of the last points reached by the lighter race, and this from the northeast by way of Tonga, the Samoan group, and, if Hawaiki of the Maori traditions, as claimed by Taylor and others, is Hawaii of the Sandwich Islands, also by way of the latter. It is therefore possible, and by no ways improbable, that the dark race followed substantially the same lines, and that America was reached by each of these races many centuries before they landed on the South Sea Islands. Be this as it may, the fact that this was the course of the lighter race renders it not only possible, but even highly probable, that offshoots of this race had reached America long before the Maoris landed on New Zealand. This would give the contact between the South Sea Islanders and the inhabitants of the west coast of North America, and would furnish a satisfactory explanation of the similarity of the arts, customs and traditions of one section to those of the other.

Now, while these facts do not furnish positive proof that either of the streams emerging from the East Indian hive reached the American coast, yet they, together with the indications of contact, which have been mentioned above, render it highly probable, and afford a natural, reasonable, and consistent way of accounting for many of the puzzling customs, arts, etc., of the aborigines of the Pacific slope which so manifestly differ from those of the Atlantic slope. They also, so far as they relate to the earlier, dark race, furnish a reply to the objection that the occupancy of the Pacific islands was at a much more recent date than can possibly be assigned to the first introduction of population into America.

No stress is laid here upon the existence of huge stone images and platforms in Easter Island, and of remains of stone structures in Rapa-titi, Tonga-tabu, and in Ponape of the Caroline group, and elsewhere, as these, although indicating considerable skill, and presenting puzzling questions, are no doubt attributable to the races found inhabiting these islands.

It must also be further conceded that the almost complete isolation of the languages of the American race from those of other parts of the world and the differentiation into an endless variety of stocks and idioms must have required more time than was required for the condition which was found to prevail in the Pacific islands at the time of their discovery. But in connection with this admission we must bear in mind that it applies chiefly to the brown or mixed races, and not to the unmixed blacks whose linguistic affinities have not as yet been thoroughly worked out. However, as heretofore stated, these items are not presented for the purpose of sustaining any theory in regard to the first introduction of population into America, but chiefly to indicate a line of investigation, which, by a more thorough study of the data it presents, may lead to fruitful results, and in order to show the great probability of contact in the past of the South Pacific race with the people of the west coast of North America.

One fact, however, should be born in mind by those who are desirous of pushing their inquiries back to the origin of the aboriginal population of the continent. It is, that we are as yet as much in the dark in regard to the age in which the black, or Papuan predecessors of the brown race, reached the various islands as we are in regard to the era of the landing of the first immigrant or cast-away on the shores of the western continent. Nothing has been presented as yet to show that the former may not have been as early as, or even before the latter; for it should be understood that what is said above in reference to the indications furnished by languages does not apply to the primary dark race. Another suggestion is, that admitting the appearance of the later Pacific race on the western coast of the continent renders plausible the supposition that the darker race, which preceded them, had also reached the same terminus.

Now, while it is true that investigations into these distant prehistoric times lead us through a hazy atmosphere where but few definite outlines are discernible, yet the lines suggested appear to be based on safer ground than those which require the supposition of pre-glacial or inter-glacial man in America, a former land connection between the eastern and western continents, and other equally hypothetical theories.

WAS THE SERPENT SYMBOL ABORIGINAL?

BY STEPHEN D. PEET.

The theory has been advanced that everything on the American continent was the result of a parallel development. There is no evidence of contact with other countries. The presence, however, of the serpent symbol in every part of this continent is a stumbling block to the advocates of the theory. We shall, therefore, take up this symbol again, with the view of ascertaining whether it could by any possible means have originated upon this continent, and shall ask various questions about it. The following are the questions:

1. Was it a symbol which arose out of the system of animism which prevailed among the rude tribes, the shape of the ground and the locality suggesting that the spot was haunted by the great serpent spirit? 2. Was it another form of tribal worship or totemism, the tribe which dwelt here having made the serpent their local divinity or tribal god, and so exalting it above all the other divinities and worshipping it as the chief divinity? 3. Was it merely a symbol of the nature powers—the lightning, the fire, the sun, the water, making one or all of them objects of worship? Was it a symbol which had been adopted by some secret society and which had become prominent among the sacred mysteries and ceremonies, but had now been made public and placed before the people to increase its power? 5. Was it the result of an intruded cultus, thus showing contact with other countries in prehistoric times? These questions suggest the different explanations which might be given. All of them furnish interesting lines of study. We shall not undertake to answer the questions or to defend the explanation, but shall refer to the different specimens of the serpent symbol, and leave our readers to draw their own conclusions.

1. The animistic conception may have been embodied in the effigies, for they are all of them situated in wild places, where it would be perfectly natural to imagine that the spirit of the serpent would resort, and the shape of the cliffs or bluffs upon which they are erected would naturally suggest the thought. It is very common for primitive people to ascribe supernatural spirits to the various objects of nature and to trees, rocks, caves, streams, springs, lakes, mountains, islands, imagine that certain places were haunted by certain animal spirits, which become local divinities. It was in this way that the Island of Mackinaw was regarded as sacred to the turtle. The Hot Springs and Spirit lake in Arizona were regarded by the Moquis as sacred to

the great serpent. The Niagara Falls and St. Anthony's Falls were both supposed to be formed by the body of the great serpent which floated down the stream and lodged upon the rocks.

The Pawnees had a story that the soul of a young brave who had been killed was carried to the houses of the animal divinities, *Nahurac*, to be restored to life. These houses were called by different names, but they were located in definite spots. One of them was called *Pahuk*, "hill island," was opposite the town of Fremont, Nebraska; another called *La-la-wa-koh-ti-to*, "dark island," was in the Platt river; another called *Ah-ha-wit-akol*, "white bank," on the loup fork, opposite Cedar river; another was called *Pahowa*, "water on the bank," on the Solomon river; another was called *Pahur*, it is a rock in Kansas which sticks out of the ground, called "guide rock." At the top of the mound is a round hole and water is in it. The Indians throw offerings into this hole to *Tirawa*, their great divinity. They were accustomed to make a sacrifice of a captive every year by burning the body after they had shot arrows into it. They believed that there were giants at first, and these giants were rebellious against *Tirawa*, but they were destroyed.

2. The region in Ohio where the serpent effigies are the most prominent was once the dwelling place of a tribe of hunters who are known to have migrated from their original seats east of the Alleghenies, following the buffalo in their retreat westward, namely, the Dakotas or Sioux, and it is quite likely that the name of the snake people, which tradition has preserved, was the one which was given to them. One plausible explanation is that this people erected the most of the effigies in this region, and that they built the earliest or oldest of the two forts which are now to be seen upon the summit of the hill at Fort Ancient, the one whose walls are supposed to have been in the shape of tortuous and rolling serpents, its gateway guarded by their heads. Confirmatory of this is the fact that the serpent effigies are found all along the track taken by the Dakotas in their migration westward to their present seats. One was discovered by the writer on the bluff near Quincy, Illinois, another on the bluff near Cassville, Wisconsin, another on the ridge near Lake Wingra, near Madison, Wisconsin, another near Mayville, Wisconsin, still another, discovered by Prof. J. A. Todd, on the bluff called Dakota. And the fact that carved animal pipes, resembling those in Ohio, have been found in the mounds in Illinois and Iowa, the most interesting of which has the serpent coiled around the bowl exactly as the one found in the fort called Clarks works.

3. Another explanation is interesting. There is, in Ohio, an effigy of a bird which is very much like the birds which have been inscribed on the rocks in Dakota. These are supposed to represent the thunder bird, a nature power divinity among the

Dakotas, and which had its abode near the pipe stone quarry in Minnesota. This remarkable figure was situated upon a hilltop near the east branch of the Miami river. The effigy is contained within a square enclosure, the walls of which conform to the shape of bluffs and are very crooked. The entrances to the enclosure are guarded by fragmentary walls, which are placed within the gateway. The figure itself has not been heretofore recognized as an effigy, but on examining it closely we discover in it the head and tail and outspread wings of a bird, the wings having been formed in such a way as to represent long, grouping feathers, the very features which symbolize the rain. These various facts, which have recently come to light, rendered very probable that the effigy builders were all of them serpent worshipers as well as animal worshipers, and that wherever they had a location they erected shrines to this serpent divinity and made their offerings to it as one of the sky gods.

4. A fourth explanation is the one suggested by the serpent effigy discovered in Adams county, Illinois. Here the serpent is situated upon the summit of a hill which overlooks the bottom land of the Mississippi river for many miles, making it a conspicuous object. Here, too, the effigy is conformed to the shape of the bluff, as it is in Ohio. The sinistral turn of the effigies has been recognized in both places. The fact that there were fire beds and the evidences of cremation of bodies in the bottom of the mound, which formed the prominent object in the centre of the body of the serpent, is another point of interest. The fire was an emblem of sun worship and was sacred to the sun. The phallic symbol was also discovered here. The bodies were placed upon their backs, the face turned upward to the sun, the hands folded over the thighs; the skeletons of two snakes were found coiled up between the hands near the secret parts of the body. The number four was also observed here. This is a common symbol among the sun worshipers. There were four large mounds in the centre of the effigy; there were four burial places in the top of one of the mounds, the points of the compass having been observed in the burials. What is most singular about the whole find was that the altar or fire bed was placed upon the summit of a deposit of black soil, constituted a circular or saucer-like depression in the soil, but all the soil which was placed above the altar and made the rest of the mound was of a strong contrast, as it was a light colored sand. A white streak of burned lime and a red streak of bark or some other substance, a gray streak of ashes indivating between the two layers. Here then we have the symbols which were common in the east and which were so expressive of the nature powers. The contest between light and darkness, the cardinal points, the number four, the several colors, the sinistral turn, the fire, the cremated bodies, and the serpent effigy itself all being symbols

of sun worship. We imagine that these symbols may have been introduced in connection with "sacred mysteries," and were preserved by some secret society or unknown organization and that the rights practiced were a part of the sacred mysteries which were observed. The situation is to be noticed. They were situated in the wildest places and were often on the summits of hills where their form could be seen at a great distance. They were, perhaps, shrines and places of sacrifice. The altars and fire beds are found in connection with them. They were calculated to inspire terror in the minds of superstitious people and yet were in harmony with the scenes of nature about them. The fires that were lighted upon them sent out their glare through the darkness and covered the whole region with lurid light. They were not merely shrines or places of worship, but were also places of sacrifice where human bodies were cremated and mystic ceremonies were practiced. We can not look upon these serpent effigies in the same way that we do upon the animal figures, for they were strange contortions and *outré* shapes; and ghastly scenes were connected with them.

Here then we have different explanations of the serpent symbol, each of them furnishing a different answer to the various questions which have been asked, one pointing to the animistic conception, another to the totemistic idea, a third to the tutelary divinity, a fourth favoring the thought that a secret society superintended the erection of the effigies, all of them doing away with the necessity of an introduced cultus to account for them and favoring the theory of an indigenous origin.

The main objection to the theory is the one which comes from the mangling of the symbols of sun worship along with those of serpent worship in the region where the effigies are so prominent, and from the striking resemblance which these effigies have to others which are found in Great Britain, Europe and in oriental countries. How do we explain this remarkable combination? Shall we say that there was a class of persons who by some means were able to cross the ocean and make their way to this remote region and there introduce the various symbols which were used upon the other side of the water and which belonged to the ancient historic races of the east?

5. Let us consider this point and examine the evidence on both sides. We take the evidence of Mr. F. W. Putnam, who has made a special study of the great serpent in Adams county, Ohio. He has described this effigy as the figure of the serpent slowly undulating itself and creeping steadily along the crest of the hill, as if about to seize the oval figure in its extended jaws. He says its position east and west indicates a belief in the great sun wheel, whose first rays fall on the altar in the center of the oval. He quotes the words of Dr. J. W. Phene, who discovered a remarkable serpent effigy in Great Britain. "The tail of the



SHELL GORGETS FROM TENNESSEE.

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serpent rests near the shore of Loch Nell. The ground gradually rises seventeen to eighteen feet in height, and forms a double curve. The head forms a circular cairn, on which there still remains the trace of an altar. The ridge was also modified by art, so that the whole length should form a spine of the serpent. Large stones were set like the vertebrae and smaller stones sloping off the ridge were suggestive of ribs." It is said that the worshipers standing at the altar would look eastward along the whole length of the reptile, toward the triple peaks of Ben Cruachan. See Fig. 1. Prof. Putnam draws the comparison between this effigy and the one in Ohio. He says: "Each has the head pointing west, each terminates with a circular enclosure, containing an altar, from which, looking along the most prominent part of the serpent, the rising sun may be seen. In the oval embankment, with its central pile of burnt stones, we find the Lingam In Yoni of India, the reciprocal principle of nature, guarded by the serpent." This interpretation of the great serpent is the same as that given by the first authors who described it, Squier and Davis, who say that



Fig. 1.—Serpent in Scotland.

the serpent in combination with the circle, egg or globe has been a prominent symbol among many primitive nations, and prevailed in Greece, Egypt and Assyria, and entered into the superstitions of the Celts, Hindoos and Chinese; and even penetrated into America. These authors speak of the altars in the oval enclosure of the great serpent near the alligator mound at Granville, and the cross at Tarleton, Ohio, all of which were on "high places." We are aware that there is another interpretation of these different effigies which would make them altogether indigenous, and which would deny any connection between symbols found in them and those found in other continents.*

6. The correspondence between the structures and the relics is to be noticed here. We find that animal worship or totemism was embodied in the emblematic mounds, or animal effigies, and the carved pipes. Mythologic divinities were portrayed by the rock inscriptions and rock outlines, as well as by the smaller images found in the mounds. The sun symbol was also con-

*W. H. Holmes thinks that the oval represented the body of the serpent, the altar the heart, the nose of the serpent was the end of the cliff. Everything about the effigy was purely aboriginal. The resemblances of the cliff to the serpent having led to the erection of the effigy.

tained in the earth-works of Ohio and the shell gorgets of Tennessee, the correspondence between them showing that there was a religious cult which prevailed among all these tribes situated in the Mississippi valley. This, of course, does not prove that any cult was introduced from any other continent, but it at least shows that serpent worship was not altogether a local cult. This correspondence will be seen if we take specific localities for illustration and draw the analogies between the earth-works and the relics which contain these symbols of the region, but it will be seen even more clearly if we take the earth-works or effigies of one district and compare them with the relics of another district, for by this means we see that the symbols were not local but general.

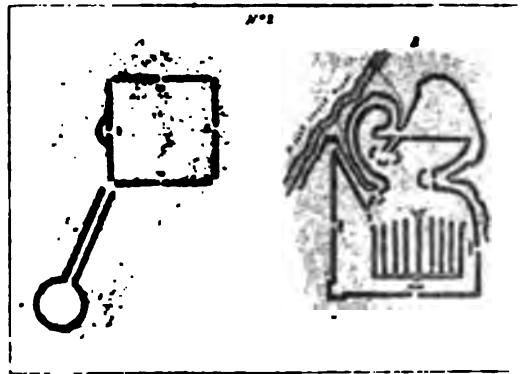


Fig. 1. Bird Effigy.

In the earth-works, the concentric circles surround a central mound, which has been regarded as a symbol of the sun, and an altar to the sun has frequently been found in the mound. In the gorgets, the concentric circles surround a central disk, which is supposed to be a symbol of the sun. There are earth-works in Ohio which contain the symbol of the cross, whose sides correspond with the cardinal points. There are gorgets in Tennessee which contain the cross enclosed within a circle, evidently designed as a weather symbol. The effigy of the bird is frequently seen in the earth-works. One of these effigies has been described as being in the center of a great circle at Newark. It contained an altar, and was evidently a symbol of the sun. The effigy of the bird on the East fork of the Miami river, referred to above, was, it is probable, the thunder bird. There is a square enclosure surrounding it, whose gateways are guarded by crescent walls. The situation of the enclosure is remarkable. It is on an eminence, and is visible from

*The following are the symbols which have been recognized: 1. The circle. 2. The cross. 3. The bird. 4. The square. 5. The crescent. 6. The hawk's head. 7. The horse-shoe.

all directions. The bird effigy nearly fills the entire enclosure. In its shape it reminds us of the various bird effigies found in the gorgets. It has been suggested that the structures were devoted to rites analogous to those attending the primitive hill or grove worship of the east.

The square enclosures in Ohio are, many of them, orientated, have gateways in the sides and corners. There are square figures on the gorgets in Tennessee which have loops at the corners and birds' heads at the sides. Both of these are supposed to be symbols of the different quarters of the sky. There are many crescents among the mounds of Ohio which are associated with circles and with squares. The gorgets contain crescents enclosed in circles.

Now these different figures show that the same symbolism prevailed over the different parts of the Mound-builders' territory. The serpent symbol seems to have been connected with it. This may be seen from the following facts. Many relics in the shape of serpents have been found in the mounds. These were evidently devoted to sun worship, and were in fact placed upon altars as offerings to the sun.

The association of the serpent gorgets with what might be called the bird gorgets is to be noticed here. Mr. W. H. Holmes has described several of these and shown that the bird, the loop, the square, the circle, the sun with rays, and the cross were sometimes combined in one complicated symbol. His description is as follows:

"A square framework of four continuous parallel lines looped at the corners, the inner line touching the tips of the starlike rays. Outside of this are the four symbolic birds, placed against the side of the square opposite the arms of the cross. These birds' heads are carefully drawn. The mouth is open, the eyes represented by a circle, and a crest springs from the back of the head and neck. The crest is striated and pointed, and the two lines extend from the eye down to the neck. The bird resembles the ivory-billed woodpecker more than any other species." This makes the bird effigy which we have described all the more significant, for the square enclosure there contains the bird which is in the shape of a cross, but in its curved walls may be said to present the loops.

Gen. Gates P. Thruston has described specimens which have been taken from mounds at Sevierville, McMahan and the Harpeth cemetery, near Nashville, as well as from Carthage, Alabama, which were evidently ancient. These show that the cult was widespread among the southern Mound-builders. The association of these shell gorgets with serpents on them, with the gorgets containing symbols of the sun and moon and stars, is another proof. These shell gorgets have been found at Nashville. One of them contains three crescents, which have a

sinistral turn around a central disk. Outside of these are nine disks, with dots interspersed between them; outside of these are fourteen other disks, which are carved in relief, so as to make scallops to the gorget.

In Mound City we find crescents which were found in mounds which were surrounded by a circular earth-work, the symbol-



Fig. 1. Mound City.

which is located in the center but a place, but the passage to the temple was across the water from a circular earth-work, which was the vault of the sun worshippers, the details of the emblem having been retained here with as much care in the earth works as it was in other details in the relief themselves.

It is to be noted that the shape of the hooded serpent surrounding the enclosure on Hauto creek is that of a Jew's harp, which is a common symbol in the east. The same symbol is

seen inscribed upon the rock in Pennsylvania called "Bald Friar's Rock." Here the head of the serpent is associated with various animal figures, but it has the same shape as many other symbolic figures in Europe and India, the Jew's-harp or the Mahadeo. See Fig. 3.*

There are tablets which contain the horseshoe symbol, which may be compared to the so called horseshoes in the Portsmouth works. One such was found near the great mound Cahokia. It contains, on one side, birds' heads, on the other, two human faces. In front of the faces are objects resembling serpents, which are suspended from the head dress, and fall across the mouth. In the mouth is a symbol which resembles the horseshoe. The heads are divided from one another by parallel lines, which constitute a cross; in the cross are circles. Here then we have the symbols of the cross, the serpent, the horseshoe, and the circle. There was another gorget in the Illinois collection in Chicago which contains the figure of a person with a crown on his head, holding up a huge bird by the neck. This person has his mouth open and head turned back, while the same symbol of the horse-shoe is in his mouth and the same serpent figure in front of the face.

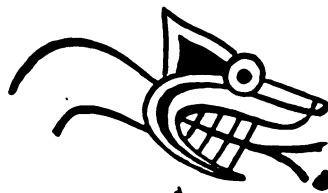


Fig. 4.—Serpent Heads from the Calices.

In certain gorgets we see concentric circles surrounding a central disk, exactly as we find in Ohio; four circular walls surrounding the central mounds, which may be regarded as the symbol of the sun; and what is more, this central mound often contained an altar with fire which was sacred to the sun. In other gorgets we find the crescents which represent the moon, while in Ohio the crescents made from sheets of mica surrounded the central altars which contained the fire. The four concentric circles were probably designed to symbolize the circuit of the sky, the crescents, to symbolize the revolution of the sun, the disks to symbolize the sun and stars, all of them astronomical symbols.

7. The solitary character of some of the effigies is an interesting feature. A solitary stone was used by the Iroquois as a tribal totem, called the Onondaga stone, but here in Ohio there were several solitary effigies, such as the thunder bird, the eagle, the alligator, the three-legged effigy at Portsmouth, a bear or

*This figure of the Jew's harp is not brought out in the plate as plainly as it should be, but it is plainly seen on the rock.

itself. These elements consist in the division of the body into four parts; in the use of the concentric circles for the eye; in the presence of the feather ornament over the head; in the presence of the horse-shoe in the mouth, sometimes divided into four parts; in the presence of the loop or noose, or coil, and many other conventional symbols of the nature power. See Fig. 4.

(1.) The tablets from the North fork of Paint creek, enveloped in sheets of copper, represents the snake as coiled up so as to make three folds, the folds reminding us of those seen in the great serpent effigy itself. This tablet was about six and a quarter inches long and one and three-eighths inches broad. The snake is carved very delicately upon it. Squier and Davis

say of the pipes and tablets that the circumstances under which they were discovered render it likely that they had a superstitious origin, and were objects of high regard and perhaps of worship. The feather-headed rattlesnake

was, in Mexico, the symbol of Tezcatlipoca, otherwise symbolized as the sun. Fig. 5.

(2.) A pipe was found in the vicinity of Santa Fé, New Mexico, and is now in the possession of William S. Beebe. The bowl is carved to represent an eagle's head and back. Along the stem four rattle-snakes are stretched in life-like attitudes. On the back and sides of the pipe are liliputian figures of men, carved in relief. This pipe

seems to contain the myth of the serpent and the bird, and at the same time represents the superstition of the serpent possessing everything which



Fig. 5.—Serpent Pipe from New Mexico.

has the shape. The four serpents represent the superstition about the four quarters of the sky. See Fig. 6.

(3.) The pipe which has been described by Squier and Davis, which represents a serpent coiled around the bowl, has been supposed by some to embody the East India symbol of the mahadeo, but by others as embodying the native American tradition of the serpent and the stump, or Manibozho and the pine tree. This pipe was found in an altar, and had evidently been offered to the sun, as it was cracked and smoked.*

*Squier and Davis say that other sculptures of the serpent coiled, in like manner, round the bowls of pipes have been found. One represents a variety not recognized. It had a broad, flat head, and the body is singularly marked.

(4.) There is a relic which was found on the banks of Paint creek, on which the face of a Mound-builder is carved, and around the neck a large serpent is folded, the head and tail resting together on the breast of the figure. The head is surmounted by a knot, resembling the scalp-lock of the Indians, but the face has markings upon it, as if to imitate the painting or tattooing common with the natives. This relic is a pipe, and yet it has a close relationship to certain stone idols which are common in this region. Thus we have the idols connected with the serpent symbol and the sun symbol in the same region, showing a combination of cults. It is carved in red sandstone, and is six inches in length and five inches in height. See Fig. 7.

(5.) A pipe found in Kentucky, now in the Canadian Institute at Toronto, represents the serpent coiled around the neck of a person, a tree growing by the side of the face. This at first



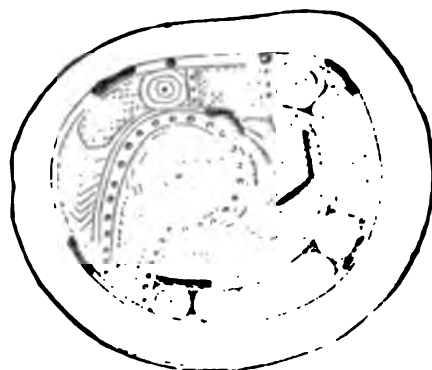
Fig. 7. Serpent and Mound-builder.

sight seems to embody the myth of the serpent and the tree, but was plainly designed to embody the myth about Manibozho and the pine tree attacked by the great serpent, his enemy.

(6.) On the old crater, a few miles southwest of Managua, in Nicaragua, five hundred feet above Lake Niapa, are numerous figures painted in red. Among these is the

coiled bathered serpent shown in the cut. It is three feet in diameter across the coil, forty feet up the perpendicular side of the precipice. This would seem to be identical with the Aztec *Quetzalcoatl*, or the Quiché *Guematz*, both of which names signify "plumed serpent." See Fig. 8.

(7.) The most numerous and suggestive class of relics is that which has been described by W. H. Holmes. They consist of a series of shagreened gourds which contain the images of serpents upon them. The majority of these were found in east Tennessee, others in Georgia, others from Knoxville, Tennessee. Some of these are now in the Peabody Museum, others in the Natural History Museum in New York, others in the National Collection in Washington. Mr. Holmes says of them: "From a very early date in mound explorations, these gorgets have been brought to light, but the coiled serpent engraved upon their concave surfaces is so highly conventionalized that it was not at once recognized. Professor Wyman appears to have been the first to point out the fact that the rattlesnake was represented. Others have since



SERPENT GORGETS FROM TENNESSEE

made brief allusion to this fact. Among the thirty or forty specimens which I have examined, the engraving of the serpent is, with one exception, placed upon the concave side of the disks, which is, as usual, cut from the most distended part of the *Busycon perversum*, or some similar shell. The great uniformity of these designs is a matter of much surprise. At the same time, however, there is no exact duplication. There are always differences in position, detail or number of parts. The serpent is always coiled, the head occupying the center of the disks. With a very few exceptions, the coil is sinistral. The head is



(Fig. 8.—Plumed Serpent, Nicaragua.

so placed that when the gorget is suspended it has an erect position, the mouth opening toward the right hand. To one who examines this design for the first time it seems a most inexplicable puzzle, a meaningless grouping of straight and curved lines, dots and perforations. We notice, however, a remarkable similarity of the designs, the idea being radically the same in all specimens, and the conclusion is soon reached that there is nothing hap-hazard in the arrangement of the parts, and that every line must have its place and purpose." See Plate.

These serpent figures were evidently designed to symbolize the nature powers. In them we have the concentric circles, to represent the sun. We find also the rotation of the sun represented by the coil of the serpents. The coil is uniformly from left to right. The serpents are divided into four parts, to represent the four seasons, or the four quarters of the sky. The neck of the serpent is covered by a conventional figure in the form of a loop, with dots along the side of the loop, possibly to represent stars. The eye is formed by concentric circles, which

again is a sun symbol. The lines below the mouth are in the form of squares, and were designed to be symbols.

These gorgets were buried with the bodies, showing that they were very sacred, and were evidently symbols of their religion, perhaps were used as charms. Very few of these gorgets have been found in the mounds of Ohio, where the serpent effigies and sun symbols were so numerous in the earth-works, but the fact that serpent effigies and serpent pipes are so numerous there, would show that the same cult prevailed in both regions. See Plate.

Still we discover the various symbols, such as the suastika, triskelis, the phallic symbol, and that which corresponds to the caduceus, and a vast number of symbols which seem to be esoteric



Fig. 9.—Serpent "Water Cooler" from Peru.

allusions to the planetary system and solar conceptions of the remotest antiquity. There are no such symbols as the "chatra or umbrella," or the "taurines or ox-heads," or "cervines or stagheads," or "nagas or serpent heads" or "stupas or steeple," but there are occasionally symbolic trees, crosses, and that which resembles the mahadeo and spectacle ornament, and the scepter, which is a rod bent like the letter Z, with ornamental ends. The solar wheel may also be recognized, though generally

a wheel without the rays; the dot in the circle being noticeable, though the bars are generally four in number. The crux-ansata, or Nile key, is sometimes recognized. The sun, as a round boss surrounded by rays, which forms a prominent ornament in the east, and is also found in these shell gorgets, but there is no rosette known in this country. The union of the sun and moon is a very natural one, either astronomically or mythologically, hence we find this symbol is used. We conclude from the examination of the figures which are inscribed upon the shell gorgets, that there was a system of nature worship in the different parts of the continent, which embraced a knowledge of the heavenly bodies, such as the sun, moon, stars, four quarters of the sky, which possibly was designed to identify the revolutions of those bodies and perhaps to symbolize

time, though the lack of uniformity in the number of circles on the sun gorgets and of the dots in the serpent gorgets renders it doubtful whether there was any chronology expressed by them. If the Mound-builders had a division of the year into months, weeks and days, we fail to recognize it among the gorgets; all we can say is, that there was a rude sabeanism among them; even this was esoteric, unknown to the people at large, but kept alive by the priesthood or medicine men. The evidence of contact with other continents is, however, much the same as that given by the effigies.

III. The prevalence of the serpent myth is another interesting point. This myth is unique, but wide-spread. There are variations to it. One is the story of the serpent who came up out of the water, and who married and left a numerous progeny. There are other serpent myths among the aborigines, which celebrate the exploits of the serpent god. The most interesting serpent myth is the one which has relation to the work of creation. All of these myths are so wide-spread, and are so different parts of the continent, that a proper inference is that the serpent cult was universal here.

Let us take first the myth of the water serpent and the woman. This is generally called "the thunderers." It is a myth which, with variations, appears not only among the wild tribes, such as the Algonkins, Iroquois and Dacotahs, but among the western tribes, such as the Moquis, and even among the Nahuas and Mayas. Different writers have given this myth without realizing that it was so wide-spread. A person comparing one with another finds the same myth. Let us begin with the eastern tribes. Mr. Charles Leland speaks of the legend of the Abenakies. The story is that a very beautiful woman married, but her husband died. She immediately took another. Five husbands, one after another, died. The sixth concluded that she had some strange secret, and so watched her. He followed her as she went on and came to a deep wild place among the rocks, and came to a pond. She sat down and sang a song. Then a great froth rose to the surface of the water, and in the foam appeared the tail of a serpent. The woman embraced the serpent, which twined around her and enveloped her limbs and body in its folds.

A variation of the same is, that there was a man and his wife who lived by the borders of a great lake. The woman had no children. One day the woman cut away the ice and saw a bright pair of eyes looking at her. Then she saw a handsome face, and a fine slender young man came out of the water. He glittered from head to foot, and on his breast was a large, shining silver plate. This was Atosis, the serpent. The snake became her husband, and she went to dwell in the water with him. Her offspring consisted of many serpents.*

*Algonkin Legends, Leland, page 271.

A story among the Onondagas is located on the banks of Seneca lake. At this lake two snakes came out of the water; the water is much disturbed and the clouds and storms rush over the lake. In this case a young man is the victim and the snake in the lake is a female. The young man is dressed in white and has white feathers in his head. The hunter came to the wigwam and saw eight chiefs sitting on the ground, all having white feathers on their heads, waiting for the young man to come out of the water. Soon there was a ripple on the lake and the water began to boil and the young man came with a spot on his forehead. He looked like a serpent, and yet like a man. The lake boiled again and the great waves rolled on the shore. The waves grew larger and the serpent man's wife came out on the shore. She was very beautiful and shone like silver; but the silver shone like scales; she had long hair falling around her, looking as if it were gold and silver glittering in the sun. This is the legend of the serpent and the thunderers.*

The Blackfeet have the story that the wife of a hunter had a black-snake for a lover, which lived in a cavern, or den, in a patch of timber. The children set fire to the timber and were chased by the head of their mother, while the body went after the father. The children threw sticks behind them, which became forests; stones, which became mountains; moss, which became a river, into which the head rolled and was drowned. The body of the woman chased the children's father down the stream and is still chasing him. The woman's body is the moon and the father's is the sun.

The story among the Omahas is that a young man made three attempts to drink at a spring, but was scared away at seeing a snake appear above the surface of the water. The fourth time he saw a beautiful woman, who married him; she was a snake woman †

The serpent is often connected with some spring or lake or water course, as if the serpent was only a local divinity, but the repetition of the same myth shows that the serpent was a god, who had its home in the water, and who, at the same time, had to do with the creation.

Among the Zunis the serpent lived in Spirit Lake. He came forth from the hot springs and gained power over the daughter of a priest doctor, who was wandering near the lake, and became her husband.

Preparatory to the snake dance, the priests hunt snakes for four successive days, and deposit them in a shrine.

In the flute dance, the man who personifies the rain god, deposits feather offerings in the bed of a stream. He wades around breast deep in the water four times ‡

* *Journal of American Folklore*, Vol. 1, p. 4. † *Id.* Vol. 1, p. 77. ‡ *Id.* Vol. 1, p. 33.

A Zuni chief spoke to Mr. Cushing of the great world-embracing waters, and of the hunter who married a serpent maiden, and who voyaged to the mountain of the sunset.*

In the Pawnee mythology, Tirawa lives up in the sky and Atius lives on the earth. The thunder is reverence and a sacrifice is offered to it in the spring. Sacred bundles are kept by the Pawnees. There was a giant race in rebellion with the creator. He shot lightning at them and then sent a deluge upon them; the ground became water-soaked and the giants became mired in the mud. Great fossil bones of mastodon and mammoth are the bones of these giants.†

Among the Hurons the thunderers wore a cloud-like robe, having wings on the shoulders. This cloud dress was given to a young man with the privilege of putting it on in the spring and floating away with the thunderers to see what they could do for the good of man.‡

The Onandogas have a story that the holder of the heavens came in a white canoe, which danced over the blue waves of Lake Ontario, and with a magic paddle he destroyed the great serpent, and the gigantic mosquitos, and made an outlet for Onandago lake. Hiawatha, the law giver, had his head wreathed with snakes, his dishes and spoons made of the skulls of the enemy. When he changed his dress he drove away the snakes. This story only perpetuates the idea of the terror with which any hero inspired those that looked at him.

Among the Ojibwas Nanibush, or Nanibozho, walking along the shores of the enchanted lake, sees something tossing on the waves. He turns himself into a branchless tree on the shore. The waters begin to boil and beat, and the serpents come forth. The great serpent hastens to the tree, coils himself around and tries to crush it, but in vain.

Another version is that he sees the waters of the enchanted lake rising and following him. He climbs to the top of a pine tree, which stretches upward three times. But the waters still rise. He creates an island and delegates the animals to recreate the world. The bear creates the swamps, the deer the hills and valleys, the butterfly the meadows and prairies. The pigeon fails to return.

The Ottawa legend is that the great serpent came forth and was dozing on the beach and Manibozho shot the god of the deep through the heart.

With the Crees, it is a fish instead of a serpent that Manibozho destroys.

In some of the myths the thunder bird and the snake are friends, the lightning and thunder, which were personified, being always connected, but the Ojibwas consider the thunder to be a

**Journal of American Folk Lore*, March, '92, p. 49. †*Ibid*, June, '93, pp. 113-122. ‡*Ibid* December, '91, p. 293.

god in the shape of an eagle, which feeds upon the snakes. The home of the thunder bird is on the top of the mountain, but it sends the young eagle to different parts of the earth to search for food.

The Passamuquodies, the thunderers, were human beings, who used bows and arrows and had wings which could be put off and on; the thunder is the sound of the wings; the lightning is the fire and smoke of their pipes. Another legend is that the thunder, *Badawuk*, and *Psawuk-tankapic*, the lightning, are brothers and sisters. The thunder crash is made by the child *Badawuk*, to whom his grandfather had fastened wings. Another legend is that the giant thunder spirits dwell in Mount Katahdin; they had eyebrows of stone and cheeks like rocks. The wind-blower was a great bird, called *Wochosesen*, who lived in the north and sat upon the great rock at the end of the sky. The Crees hold that the thunder is caused by the screaming and flapping of the wings of a great eagle.* The Tetons hold that the thunderers, an ancient people, still dwell in the clouds. They have large, curved beaks and wings. They make lightning when they open their eyes. Their ancient foes were the giant rattle-snakes and the water monsters, *Un-kche-ghi la*, whose bones are now found in the bluffs of Nebraska and Dakota.

Among the Moquis, as among other Indian tribes, the snake was the guardian of the springs, and like the frog, it has come to be an emblem of water, and sand pictures of it find an appropriate place in the rain or water ceremonials. The sinuous motion of the animal recalls the lightning which accompanies the rain and the zigzag line is used as a sign to designate both.†

Mr. Walter Fewkes says: "The idea of the serpent guarding a sacred spring is so widely spread in the mythology of primitive people that it may be looked upon as a fundamental principle."

Among the Moquis, to kill a snake is to destroy the guardian of some spring or source of water.

The Hurons have the story of a voice that came from a disturbed pool and demanded a sacrifice. The water began to boil and there came forth a large bird, the diver. The water rose higher and the porcupine came out. The water rose in fury to a level with the bank and the head of a huge horned serpent with distended jaws and flaming eyes rose and glared at the hunter, called *Ti-jai-ha*. He, in return, shot the creature in the neck ‡

*Folk Lore, December, 1886, page 26.

†See Journal of American Folk Lore, 1897, page 111. The great plumed serpent of the Zunis, lives in the water.

‡Journal of American Folk Lore, December, 1886, page 25.

CHARACTERISTICS OF AMERICAN LANGUAGES.

BY DANIEL G. BRINTON, M. D.

Students of native American languages in the early part of his century believed that they distinguished in them certain traits which were so prominent—though no one claimed, confined to them—that it justified grouping those tongues, so far as examined, in a morphologic class by themselves.

These traits were stated to be two in number. The first was a tendency to run a number of words or elements of speech, together, under certain rules of elision and euphony, so as to form a complex or synthesis of them all; which, as it was in excess of that found in most Old World languages, and had a different logical intent, was called a poly-synthesis or multiple synthesis. The second trait was a notable tendency to subordinate the verbal to the logical elements of the proposition by a series of substitutions, placements and phonetic changes, especially visible in the objective and the possessive relations, and in sentence-formation. This was called Incorporation, in German, *Einverleibung*.

For a long time there was no serious attack on the general statement that these processes are to be found prominently enough developed in most American languages to sanction their use as morphologic classifiers, especially that of Incorporation. Recently, however, several writers, either dominated by the theories they had espoused, or deficient in the psychic insight to understand the true nature of these processes, have denied their existence, either wholly, or as general traits in American languages. Some years ago I argued for the correctness of the older theory, but evidently not successfully enough;* for in *The American Anthropologist*, October, 1893, Mr. J. N. B. Hewitt publishes a long and labored article, in which he denies the existence of polysynthesis and incorporation, as they have been defined, and depreciates the value of linguistic morphology generally as a method of ascertaining linguistic affinity.

His language is so positive and his opinions so dogmatically expressed, that the innocent reader will be apt to lay down the article with the impression that Mr. Hewitt "knows it all," and that the debate is ended.

Let us see how this is.

The first point which cannot fail to impress one acquainted with the discussion of the subject is, that in his extended and

*The article I wrote may be found in my *Essays of an Americanist* (Philadelphia, 1890.)

seemingly learned article, Mr. Hewitt does not once mention nor quote the distinguished linguist who first defined Incorporation, and assigned it as a characteristic trait of American languages, Wilhelm Von Humboldt; nor does he mention or quote the most eminent and able living defender of that opinion, Professor H. Steinthal. Indeed, from what he says of the deficient analyses of American languages presented by those who have maintained the Incorporation theory, one is forced to believe that he has never read those writers, and is therefore ignorant of the evidence for the theory he is combatting. Otherwise, he could not have had the presumptuous arrogance to speak of them as "of small value and precarious utility," and as "faulty and equivocal works."

Or is it—as I observe no reference to any of the numerous German writers who have touched the question—is it that Mr. Hewitt is unfortunately unacquainted with the German language? That would be a sad plight for so slashing a critic! It would certainly be profitable to him to rest awhile on his arms, and learn that tongue; an ignorance of which incapacitates any man from acquiring a knowledge of the Science of Language.

At any rate, Mr. Hewitt knows French, because he quotes lengthy paragraphs from Duponceau, in the original; unaware, apparently, that in the linguistic history of America, Mr. Duponceau's views, while rich in insight and suggestion, are not those which represent the science of to-day, by any means; a statement which I made many years ago, and which Mr. Hewitt quotes from my article, without appreciating its bearings, through defective knowledge of the later history of the discussion. One who has not studied the demonstrations of Humboldt, Steinthal and Winkler, is surely foolhardy to attack them, and to claim that their opinions have not been "tested" (Mr. Hewitt's expression) by a scholarship as deep as his own!

The one great authority whom Mr. Hewitt quotes, as if irrevocably conclusive, is the "distinguished linguist," Professor Whitney; and precisely in reference to the nature of inflections and synthesis. Mr. Hewitt does not add—perhaps he does not know—that Professor Whitney is no authority whatever on these questions among many of the best linguists in Germany and Europe; that his theories have been condemned as narrow and chimerical by such masters as Professor Steinthal and Professor Max Muller, and a host of others.

With this narrow foundation to build upon, we find that Mr. Hewitt nowhere undertakes to reply to Professor Steinthal's demonstration of the processes of incorporation in the Nahuatl and Eskimo languages, for instance; but deals chiefly in blunt contradictions. Thus, I had stated that the particles in certain languages had no independent positions as words, but could only be employed in word-building; concerning which he writes:

"This is romance and not comparative grammar. Words can be modified by other words only."

It is difficult to decide whether rudeness or ignorance predominates in this sentence. It betrays a total lack of familiarity with the technical meaning of "word" in linguistic science. With such knowledge (?) of the subject, what would Mr. Hewitt make out of Steinthal's assertion that "the Chinese language is wordless?" Or that of Winkler, that the Ural-Altaic languages "are almost devoid of words?" Yet modifications of phonetic groups in these languages by others are constant. Are these writers also, in Mr. Hewitt's opinion, "romancers?" If so, it would be wise for him to read rather more in that line of light literature. Seriously, a writer unacquainted with the technical terms of a science should reserve his writings for the admiration of his private friends.

Another singular instance of the facility with which Mr. Hewitt manages to miss the point, is shown in his criticism of Duponceau's statement that certain specific concepts, such as "I desire to eat meat," may, in some Indian languages, be expressed by a single verbal, and thus offer evidence of what Duponceau calls a *melange d' idies*. On this Mr. Hewitt comments: "The intermixture of the parts of speech (!) does not follow from the fact that a language can in a word-sentence say, 'I desire meat.' Such word-sentences are governed by fixed laws of position and sequence of stems."

To remove somewhat the nigh helpless confusion in which this astonishing method of translation, and total failure to grasp the point made by Duponceau, leave the reader, I quote the following passage from Steinthal's masterly analysis:

"We must always bear in mind that in the Nahuatl language, synthesis cannot have the same signification as in our own. In the latter, the synthetic process forms words; in the former it establishes the unity of the parts of the expression. In the latter, it conveys one idea which is the result of the union of two or more concepts; in the former, it expresses a judgment, a relation between ideas."

If this admiral definition is too subtle to be seized at once, polemics had better be deferred until it is mastered; for what is true in this respect of the Nahuatl language is equally true of the majority, the large majority, of American languages, and constitutes the characteristic trait of their phonetic complexes.

Its bearings have evidently not been understood by the Rev. J. Owen Dorsey, who contributes an Appendix to Mr. Hewitt's paper, or he would not have quoted a series of Aryan compound words as of the same nature as these American syntheses.

Mr. Dorsey betrays an equal confusion in reference to the real nature of case-endings in Aryan grammar. He thinks that all of them are to be reduced to relations of space, and quotes various

authorities who he believes support him. This is another instance of a complete misunderstanding of the difference between the formal and the material in language, on a par with Mr. Hewitt, about "words." Does Mr. Dorsey look upon the numerous terminations of nouns in the Ural-Altaic languages as the same in character as those in his latin grammar? Can he not see that the latter are formal and gramatical, expressing the relations of words to words, and not at all independent concepts, attached to the stem, as are most of the former? This distinction is so real and so momentous that it is lamentable to see it overlooked and misconceived by a professional linguist. It is a mile-stone in the history of language.

It really would appear from these and from the general tone of the article, that neither Mr. Hewitt nor Mr. Dorsey fully understand the fundamental distinction between formal and formless languages, a distinction elementary in comparative grammar, without a clear conception of which, however versed one may be in English, or Dakota, or Iroquois, he remains as ignorant to discuss the principles of comparative grammar and linguistic morphology as Moliere's *bourgeois gentilhomme*, who was astonished to learn that he had spoken prose all his life without knowing it!

Further to illustrate this, I quote the following from Mr. Hewitt: "The compound stem of word sentences may, *by historical changes*, become parts of speech, notional terms, denotive of the things described by the word sentences, *and they can be so considered only when the linguistic sense has come to disregard the separate meaning of the elements thus combined*" (italics mine).

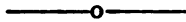
Rarely has there been written a sentence more seriously erroneous than this when applied to the formless class of languages, to which those of America belong. I shall content myself with placing alongside of it the expression of a really competent analyst of human speech, Professor Winkler. The extract is from his fine analysis of the Pokonchi: "The same word-complex functions here as a pure verb, or as a whole sentence, there, as an equally pure noun, and again, under some circumstances, what was a verb or a verbal expression may take, on a constructive increment, which will transfer it wholly into the adjective sphere."

The competent reader will not be surprised to find that after such exhibitions of his appreciation for what he calls "tanciful assumption" (meaning the opinions of Humboldt, Steinthal, Winkler, etc.) Mr. Hewitt closes his article with a general attack on the value of linguistic forms in the comparative study of languages, and in their classification.

Of course, it is a great deal easier to compare strings of words arranged in vocabularies, and I have heard that method of comparison lauded above all others by very prominent members of

the United States Bureau of Ethnology; and certainly, where the essential differences between linguistic form and formlessness are as obscurely understood as they are in Mr. Hewitt's article, their application had better be omitted. Though in the face of the notable triumphs of morphologic investigation in the hands of European linguistics, his assertion of its worthlessness is rather painful to one who takes pride in American scholarship.

But it is not my intention to point out in detail the inapplicability of Mr. Hewitt's article to a discussion of these important themes. I would merely add, in conclusion, that the reader who wishes to acquaint himself with the best works on this subject will not turn to the early and shrewd guesses of Duponceau, nor the views of prejudiced or partially informed writers, but will take up for serious study the works of the German linguists, Humboldt, Steinthal, Von Fschudi, Winkler, Stoll, Von den Steinen, etc. From these he will learn the true status of the question.



PALESTINE EXPLORATION FUND.

BY THEODORE F. WRIGHT.

The importance attached to the objects which are obtained by excavation or otherwise in Palestine, appears from a discussion now going on in the *London Academy*. Some three years ago Dr. Thomas Chaplin, of the Executive Committee of our Fund, brought home a little spindle-shaped object only about one inch long, but inscribed on two flattened sides with a few letters. He handed it to Dr. A. H. Sayce and a few other scholars, who agreed that it was a weight. Dr. Sayce read the inscription, "a quarter of a quarter of a netseg," and he explained the netseg to mean the weight of five shekels. Two letters in particular he read as "shel," meaning "of." He argued that this weight, which had been obtained at old Samaria, must go back to the seventh or eighth century B. C. Now, this little word is found in the Song of Solomon, but not in all the Bible, and so the age of that book might seem to be somewhat defined.

It appears that Professor E. König, of Rostoch, was about bringing out an edition of the Song, and had come to the conclusion that it is not as old as commonly reckoned; but now he must reckon with Dr. Chaplin's weight. So he sent for a *fac simile* of it, and carefully examined it, with the aid of other scholars. The result was that they did not think that Dr. Sayce had read "shel" correctly, and this opinion appeared in the introduction to the Song published by Professor König. When this came to the attention of Dr. Sayce he resisted the stigma put on his skill and declared that the *fac simile* must be imperfect.

This led some to blame the Fund at once for issuing an imperfect

cast, and that led Dr. Chaplin to put the weight and several casts into the hands of Professor W. Robertson Smith, of Christ's College, Cambridge, who has now published his verdict in a long communication to the *Academy*. He pronounces the cast a perfect copy, and so the Fund is wholly cleared. He shows that Dr. Sayce was hasty in his reading, that the "shel" is hard to make out, and that for reasons which he gives, Dr. Sayce is probably wrong. In fact, he thinks that the writing on the two sides is of different ages, and that it cannot all be read as one inscription, and that some of it is not genuine. Thus Dr. Sayce is left to clear himself from hasty reading of the inscription, and equally hasty condemnation of the Fund's copy of the weight.

This shows a connection between the inscriptions already discovered and the higher criticism represented by Professor König and emphasizes the need of excavation and research of all kinds. The Lachish tablet is distinctly against the position of the higher critics, but they will not yield at once and will need to be met with other similar testimonies as to the real facts of the Bible times, and so at last the truth will be vindicated.

Many inquiries have been made for the small objects advertised by the Fund, but not hitherto procurable in this country. I have just obtained a supply of them, and can deliver them, postage paid, as follows:

1. The Lachish Tablet is perfectly reproduced in a clay cast, except that the original is inscribed on both sides, and in the cast the front and back are on separate pieces. Each piece is two and a half inches by two, and less than half an inch thick. They are very light. The cuneiform writing is very distinct. Translation will be found in the *Quarterly Statement* for January, 1893, page 27, according to Professor Sayce; and in Major Conder's volume on the Tell-Amarna Tablets, page 130. The price of the pair is seventy-five cents, and either half will be sold separately for forty cents.

2. The seal of Haggai, the son of Shebniah, was discovered near the southwest corner of the Temple area in 1867, and is described in "Recovery of Jerusalem," page 95 and 386. The original is a black stone, oval in form, and but half an inch long. The names form two lines of old Hebrew characters. This is reproduced in metal. The price is fifty-five cents.

3. The ancient Hebrew weight is fully described in the *Quarterly Statement* for October, 1890, page 267. It was obtained by Dr. Chaplin in Samaria, in 1890. It is about one inch long, pointed at the ends, and swelling in the center to a thickness of a quarter of an inch. There are two lines of ancient Hebrew characters, which have been read as meaning a quarter of a quarter of a netzeg. This is also reproduced in metal. The price is sixty-five cents.

4. The fourth object is a reproduction in clay of a weight or

bead obtained by me from Anata Anathoth. It was handed to Mr. Armstrong for examination, and has proved to be an important object, as the inscription is variously read by Professors Sayce and Ganneau. The bead is a hemisphere, three-quarters of an inch in diameter, and half an inch high. It is pierced with a hole, and has three letters upon it. See Quarterly Statements for January, 1893, page 32; July, 1893, page 257. The price is thirty cents.

The price for all four is \$2.25.

Cambridge, Mass.



A WESTERN TEWAN.

PRAYER PLUME FOR RAIN.

By J. WALTER FEWKES.

On my departure from the Eastern Mesa of the Tusayan Pueblos last July (1892) I told the head men of Hano that I was going to cross the great eastern water (the Atlantic ocean) to exhibit the products of their skill, and that of their ancestors, to the descendants of the Kas-tel-cy-nu-muh (Spanish people) who first of all the white men visited and discovered their race. I am not sure whether I suggested the idea that follows or not, but the Tusans at least required little solicitation to carry it out. It seemed to them a good plan to prepare offerings to be made at the great water for the rain, which was sorely needed at that time. When I left the country the prayer emblems were not ready for me, but later Mr. Stephen* who was at work for the Hemenway expedition, urged the priests to send them to me. Accordingly they prepared their offerings, and the prayer sticks were forwarded to Boston, where they arrived too late to be used before my departure, but were found on my return.

Three prayer sticks or *ba ho(s)* were sent to me, two of which were made on July 29th (1892), in the room above the first house to the right as one approaches Hano; the other on August 2nd, by the chief, Ká-la-cai, in a room adjoining his home. The first, according to Mr. Stephen, was prepared on the initial day of the *Su-my-ko-li* ceremony, and are identical with those made at that time.†

The instructions transmitted to me from the priests by Mr. Stephen were: "Set the *ba-ho s*) at the edge of the water, or plant

*Mr. Stephen was unable to obtain *ba-ko(s)* from Walpi and Sit-cum-cy, and the offerings here described are from the Chiefs of Hano or Hanoki, commonly called Tewa, the first of the three villages of the East Mesa of Tusayan.

†See Journal of American Ethnology and Archaeology, Vol. II, No. 1.

them in the water and cast the meal upon them, and then over the water, and pray the clouds to hurry here fast with the rain. Each man sends you a handful of sacred meal with the *ba-ho* which he has made."*

The form of these prayer emblems is as follows: Each *ba-ho* is formed of two sticks tied together with cotton string, and is as long as the middle finger measured from the crease in the palm of the hand to the finger tip. One of these sticks is the female and has at one end a flattened face, painted green, with three spots. The other is the male, and has an incision, also painted green, cut in it. The shafts of both are painted black; the blunt end green. This is a characteristic Tewa *ba-ho* and differs from that of the Hopi in the fact of the male stick of the latter being without the feneled incision, as I have already elsewhere pointed out.†

The male and female sticks are bound together in two places, near the pointed end, and at the lower part of the incised fenele below the flat face. The former binding consists of a number of strands of loosely spun cotton, upon which are painted four parallel black lines a quadrant apart; one just above the point of approximation of the two sticks, one diagonally opposite, and two a quadrant from these.

The second binding cord is also a double, loosely-twisted cotton string slipped on the *ba-ho's*, and has two feathers attached to its ends.

A turkey feather is tied to the back of the *ba ho*, and a feather from the breast of the eagle is inserted between the two sticks of the *ba-ho*‡

*According to Mr. Stephen's letter, Kwakwaw, La'ye'm and Kaka'way made these three *ba-ho's*. The *ba-ho* with a turkey feather was made by Kwakwaw, and that with the hawk feather by La'ye'm.

†I have elsewhere mentioned that when the *ba-ho's* are made they are rubbed on the sticks, but sugar is sometimes used for this purpose. I have never seen with spittle, as is rubbed in the body, and I once noticed that Kaka'way when the *ba-ho's* announced the *ba-ho's* sticks, stepped up the altar ladder and spat sugar and spittle on the four cardinal points.

‡The length of the cotton string used in binding the two sticks of the *ba-ho* is measured by winding it about the thumb and first three fingers.

THE SUASTIKA AND ALLIED SYMBOLS.

BY C. STANILAND WAKE.

The use by the aborigines of the North American continent of the suastika and also of a design resembling the Chinese Tai-ki, or the Yin and Yang figures, has long been known. The presence of these symbols, as they must be regarded, in the fine collection of Indian objects brought together in the Ethnological Department of the Columbian Exposition gives occasion for some further reference to them and their origin. Among the numerous relics of copper obtained by Mr. W. K. Moorehead from the mound at Hopewell's Farm, Ross County, Ohio, are two objects in the simple suastika form. The *meander* pattern, which is allied in some way to this symbol, appears on pottery and cloth from various localities in both North and South America; as do also the single and double spirals, which have a similar connection and would seem to have some relation to the Tai-ki figure. This may be traced in the ornamentation of work baskets made by natives of British Columbia, which agrees in general character with that inscribed on shell disks from the mounds of Tennessee.

In a monograph entitled, "The Tai Ki, the Suastika and the Cross in America," read before the American Philosophical Society in 1888, Dr. Daniel G. Brinton expresses his belief that all these symbols are closely allied in meaning, and that they are "graphic representations of the movements of the sun with reference to the figure of the earth." This is one of the most generally received opinions among European writers, who regard the cross inscribed within a circle, with a central boss, as representing the *rolling* sun. Dr. Brinton objects to this view, that the same figure was familiar to peoples who did not know the mechanical device of the wheel, and he affirms that "when applied to time, the symbol of the circle in primitive art referred to the return of the seasons, not to an idea of motion in space." In confirmation of this opinion, Dr. Brinton gives a representation of the curious Aztec symbol of the year-cycle, in which he supports the development and primary significance of the square, the cross, the wheel, the circle and the suastika may be observed. The fact remains, however, that the Aztec figure has the form of a wheel, although with incomplete peripheral disk, and though enclosed within a square. This square represents space, from the four corners of which the winds are blowing, and within which the seasonal motion takes place. The inscribed figure, which

has the sun for the central boss, has the appearance of revolving, by means of its four arms, as with the seven-armed sun of the Chokitapia or Blackfeet Indians.* Thus, although the actual idea of motion of the sun in space is not represented, yet the movement of the sun throughout the year is intended to be figured. We have the same idea in the three legged symbol used as the emblem of the Isle of Man.

Evidently motion is the affective idea embodied in the time-cycle symbol, as well as in the wheel-cross, a form of wheel met with as a common decorative design on native Brazilian pottery, has spiral figures instead of the four arms of the Aztec symbol. The spiral coil is thus associated with the suastika, as this is connected with the Ta-ki, and all alike must be regarded as having relation to the position of the sun, and thus as having a common origin. The four-arm cross also has reference to the four directions, or points of the compass, but these have relation to the course of the sun in its daily path, and the association with the cross symbol of the four winds is secondary, as shown by the fact that in the Aztec figure of the time-cycle, the winds come, not from the four quarters, but from the four angles of the square, which lie southeast, southwest, northeast and northwest. But can this figure have been the original form from which the suastika and the Ta-ki were derived? The former might certainly have arisen through the shortening of the curved continuations of the four arms of the figure, although it could not be spoken of as a "broken circle," so that the figure does not form a complete circle. This fact throws doubt on the possibility of deriving the Ta-ki from the Aztec figure, which, on the other hand, could easily have originated from the wheel-cross, notwithstanding the objection arising from the ignorance of the mechanical device of the wheel, which Dr. Branton rightly ascribed to the American Indians. For this ignorance did not extend to the rolling motion of round objects, and as this is the only mode in which such objects do move, and the sun evidently has motion, the native mind may well have inferred that it rolled in its course. On the other hand, the Aztec figure might have originated simply in the elongation of the arms of the suastika, which may have been curved at one time, becoming straightened when the origin of the suastika was forgotten.

There is no occasion, however, to take this position, as a simple explanation can be given of the common origin of the suastika and the Ta-ki, in that what may be properly termed the wheel, either in form or in portions of it. The part of wheel, with its periphery, spokes, and hub, would represent the solar body, and this need not to come to be known to Buddhism as the "Wheel of the Law." If the four sections of the periphery

* *Journal of the American Anthropological Association*, vol. 1, p. 107, 1891.

of the wheel symbol be cut short, we have the Aztec time-cycle figure, and still further shortened we have the suastika with its extremities slightly curved. If, instead of the periphery being affected, the four spokes of the wheel are curved, we shall have the four-fold American symbol which answers to the Tai-ki. The origin thus supposed is confirmed by the form of the Tai-ki itself, which, as Dr. Brinton points out, resembles the Mexican Triskeles, used to denote culminating days, in having one of the two equal sections of the circle which represents the Yin and Yang divided by a third arc, the other section retaining its original size. If a fourth or any other number of curves were added, we should have the varying forms assumed by the Yin and Yang figure, and the cross within the circle may thus be regarded as the foundation of the Tai ki, as well as of the suastika, the arms of which take a curved form on pottery from the Missouri mounds, exhibited in the Anthropological Building at Jackson Park.



That the suastika really forms the basis of numerous phases of the meander pattern could be established, I think, from a comparison of the examples brought together by Professor Alois Raimond Hein, of Vienna, in his *Meander, Kreuz, Hakinkreuz und Urmotivische Worbelername in Amerika*, published in 1891, although other phases are derived apparently from the spiral coil, the connection of which with the suastika is shown by the double spiral, associated with the ring-cross, of Brazilian pottery. That is not, however, the view adopted by Dr. William H. Goodyear, in his "Grammar of the Lotus," who looks upon the suastika as merely a detail of the meander, a conclusion which it would be difficult to accept in face of facts which I have not space here to enlarge on.

Objections might be made to the connection of the suastika with the solar wheel arising from the association of the former with the four winds. It must be remembered, however, that the wheel represents more than the mere solar orb. It is symbolical of the course of nature, among which the phenomena of the winds occupy an important position. The question can be resolved only by reference to such esoteric ideas as are connected with the Yin and Yang of Chinese philosophy, which stand for the opposing yet complementary principles of energy and force in nature.

PRE-HISTORIC POTTERY FROM THE MIDDLE MISSISSIPPI VALLEY.

BY PROFESSOR JAMES D. BUTLER.

The State Historical Society of Wisconsin has just added to its museum several hundred specimens of pre-historic pottery. Its purchase of the Perkins collection of copper implements in 1875 rendered that society easily first in that department of antiques. Nor was it far behind in the line of Indian curiosities gathered by Governor Doty, and in relics of the stone age. The treasures of the ceramic art just now acquired form a new departure, and rounds up the circle of its exhibits. They are also more suited to spectacular display than any species of aboriginal remains which it has hitherto shown.

The new treasure-trove consists of two hundred and fifty-four pieces. They were all discovered in southeastern Missouri or northeastern Arkansas, in the Missouri counties of Scott, Mississippi, and New Madrid, and in Cross and Poinsett counties of Arkansas. All were found in graves of a depth of from two to five feet. They had usually been placed one each side of a skull. In trans-Atlantic cemeteries similar vessels, when buried with the dead, were often purposely broken, either as a token of grief or to make them valueless in the eyes of grave-robbers. But these Mississippi memorials were evidently laid in the dust unbroken, and probably contained food or drink. Indeed, when exhumed, so many of them were still whole that only about ten per cent of their number needed to have their fragments glued together.

The material is clay of various colors, but usually blackish. It is tempered with bits of shell, which often give it a pepper and salt appearance, the pepper predominating. All the articles are hand-made, showing no traces of any wheel manufacture, but they are molded in forms symmetrical and sometimes of classic elegance. None of this handiwork indicates acquaintance with the art of glazing, though some articles were rubbed smooth and reddened with ochre, or veneered with a different variety of clay. Not a few in the shape of gourds or squashes would seem to have been modeled and shaped on these natural molds. Others show the forms of mud-turtles, fishes, and various animals. A few imitate the human figure. One female kneeling low, appears to be in an attitude and with a look of humble but earnest supplication.

The variety in form, size and fashion is very considerable.

There are shallow or wide-mouthed vessels, which we term pans, bowls, basins, porringers, and cups, according to size and shape. One, seemingly copied from a shell, has a nose like a butter-boat. Where the mouths are somewhat narrower, we may call them pots, some of which would hold a pailful. Some pots have projections on their rims, or a sort of ears, through which thongs would slip to suspend them over a fire or elsewhere. Others run up in the style of long-necked birds, which serve as handles.

The articles which are most narrow-mouthed, it is natural to call bottles. Of these some are as big-bellied as demijohns, while others are so slender that their necks are only two or three times as thick as their bodies.

At the base the bottles are either flattened or they stand on three legs. When their necks support the heads of animals the animal's mouth sometimes forms a bottle mouth—but that orifice is at other times in the back of the animal's head. The ears of the human heads were pierced, as if for ear-rings.

It will be observed that many styles of archaic pottery have no representations in the collection we have now acquired. The coil pattern, for instance, so common further south and east, has had no existence. In this variety the clay long drawn out into a rope and rolled round, was then bent into circular layers, so as to form a base, then swelling sides, and then often the contracted neck of a jar or bottle.

A large number of our acquisitions bear some sort of ornament as swelling bosses, or, on the other hand, sunken dimples, a sort of *repoussé* work produced by the artist's finger pressing the soft material from without or within. Other styles of decoration are bits of clay stuck on outside, here and there, like spit-balls. Sometimes rims are indented so as to resemble twisted cords, or the links of a chain; at other times there are lines, straight or curved, or rising like the rafters of a house. But a majority of the specimens are totally unornamented. These relics devoid of ornaments, one is at first inclined to ascribe to the most archaic era of the art. It is not, however, to be forgotten that bones of the mastodon, an animal now extinct, have been found carved with representations of hunting that animal—a find which argues that no art is more ancient than the taste for ornament.

What was the beginning of the potter's art? is a natural question.

Herodotus tells a story concerning a Scythian custom which may throw light upon the invention of pottery. The people having killed an ox, would use his stomach as a caldron for boiling his flesh. Hung beneath a tripod and high over a fire, such a kettle of green tripe would stand much heat while the flesh was boiling. Now and then, however, it must burn through. What more natural than to stop leaks with the clay on which

it may be, the fire had itself been kindled? It is the first step that costs. After one clod had been stuck on, the whole stomach would be speedily covered with such fire-fenders, and at the next step would be discarded altogether when the clay pot was once well baked, or rather would perish in the baking. Behold the possible genesis of pre-historic pottery.

American archaeologists hold that our pottery originated, relatively speaking, earlier than that of Egypt. In saying "relatively speaking," they have reference to the fact that no Egyptian pottery is older than alphabetic writing in the land of the Nile, while all our relics of that sort were fashioned among people who had not yet invented any sort of A, B, C's. Our handiwork seems then to run back to an earlier stage of development than any known Egyptian survivals.

The lessons we shall learn from our new discoveries of primeval art it is impossible to foresee. Varieties in the fashion of vessels may demonstrate the lines of demarcation between tribe and tribe. Each fish, bird and animal may give us a clue to the emblem or totem distinguishing one clan from another. Ornamental lines which we at first ascribe to capricious fancy, may at length turn out to be significant of some real fact.

My own hope is sanguine that within a decade our museum will be enriched—thanks to our collections from states south and west—with a pre-historic treasure-trove of Wisconsin pottery. No specimen of that sort has, indeed, hitherto come into our possession. But we know that some of them exist, indeed we have seen and handled them. Among the fifty thousand visitors who annually walk through our show room, we trust that some now unknown to us will prove to be owners of these varieties, and will be disposed to place them where they will do most good. In juxtaposition with types from a distance—each class lending and borrowing light by mutual reflection, they will aid more than can be foreseen—comparative research "in the dark backward and abyss of time."

JAPANESE ART ON PUGET SOUND.

BY JAMES WICKERSHAM.

An application was recently made to the Tacoma school board by a Philadelphia educational society for leave to remove the Tacoma school exhibit at the Chicago Exposition to Philadelphia, there to be added to a collection illustrative of the public school system of the United States. In the same connection Dr. Wilson made a further request of some of our Washington people, viz.: that a large photograph or painting of Chief Seattle be forwarded with the exhibit that it might be hung in connection therewith, as illustrating the advancement in civilization on Puget Sound—the contrast between the degraded savage and the intelligence of our schools. To this I respectfully demur, and object to hanging the face of the celebrated Dwamish chief in a public hall as a symbol of the supposed stupidity of his race—as a monument of savagery and ignorance. And it meets with my special protest that the first one chosen to fill this degraded position should be the white man's friend, the staunch opponent of the white man's numerous vices, the typical man of strong Indian virtues—Seattle, the peace chief of the Dwamish!

Was Seattle as ignorant as Dr. Wilson's request would suggest? Does he represent so low a grade of civilization that he ought to be gibbeted as an example? I think not; and in the few remarks offered it is intended to show that he was a fair representative of a race of people occupying a mid-position in the civilizations of the world—not as high as some, and certainly not as low as many. This civilization occupied the coast line of America from the outer Aleutian islands to the northern boundary of California, and never extending into the interior of the continent at any point except on the waters of Puget Sound and the Columbia River. A very different type of people lived on San Francisco Bay, for while the natives of Vancouver's island went out upon the open ocean far out of sight of land, to attack the whale, in boats of remarkable beauty, size and seaworthiness, the poor Indian of San Francisco Bay rode on a bundle of reeds or the frailest sort of a dug-out. But from the mouth of the Columbia River to Southern Alaska, skirting the shores of the Pacific, there existed a type of civilization unique and more than ordinary in character. There was a reason for this ocean-fringe population—a cause that produced their higher civilization, and to this I now invite your attention.

The northern equatorial current of the Pacific ocean takes its rise off lower California, and sweeping half way around the earth,

just north of the equator, strikes the shores of Asia, whence it is deflected northward. Off the coast of Japan it is given the name of "Kuro-Shiwo," or "black stream," so well known to the Japanese from ancient times. From the shores of Japan the current strikes northward and east, until it reaches near the American coast, where it divides—a great ocean eddy bathing the southern shores of the Alaskan peninsula in warm fog and rain, while the main current sweeps majestically southward past the coasts of Washington, Oregon and California to join the equatorial current again off lower California. This greatest of ocean currents is the cause of the higher type of civilization on the northwest coast of America. On its outer rim, for its full distance around the great circle, we find the same black-haired, yellow race of men—the same physiognomy and the same civilization; its representatives are the Japanese, the Haidahs, and the Sandwich Islanders—the parent is the Japanese race.

In the year 1833 a Japanese junk was stranded at Cape Flattery. It had been cast adrift off the coast of Japan in a storm, and being disabled had drifted in the "Kuro-Shiwo" from Japan to Cape Flattery. One day an Indian brought into the Hudson Bay trading post on the Columbia river a piece of Japanese paper with a rough drawing of a wrecked vessel on the sea shore, three captives in Japanese costume, and the Indians carrying goods from the wreck. Upon the receipt of this very strange communication the chief factor ordered the company's vessel to touch at Cape Flattery on her way into Puget Sound, and ascertain the truth of the rumor of the wreck of a strange vessel at that place. This they did, and succeeded in rescuing the three Japanese, who had been reduced to slavery by the Makahs, bringing them to Nusqually House. From the daily record kept at that trading post I have copied the original entry concerning this interesting event. Under date of June 9, 1834, the record reads, "About two P. M. we heard a couple of cannon shot; soon after I started in a canoe, with six men, and went on board the Lama with the pleasure of taking tea with McNeil, who pointed out two Chinese he had picked up from the natives near Cape Flattery, where a vessel of that nation had been wrecked not long since. There is still one amongst the Indians inland, but a promise was made of getting the poor fellow on the coast by the time the Lama gets there." The only error in this account is as to the nationality of the shipwrecked people—they proved to be Japanese and not Chinese.

In 1805 a Japanese junk was stranded near Sitka, after drifting helplessly from the coast of Japan to that point. About a dozen men were alive on board, and were cared for by the Russians and placed upon an island, which was thenceforth called Japonski island. About a dozen known wrecks have occurred on the Aleutian islands; two on Queen Charlotte's island (where the

Haidahs live), and many on the coasts from that point to lower California, but none on the coast between Oregon and lower California. In many of these cases the Japanese sailors were yet alive; for unknown centuries this settlement of the American coast by shipwrecked Japanese has been going on—for how long, and with what numbers, no one knows, but if the number in past centuries has equaled the last, it need not be a surprise that a high civilization is found here in consequence. Much of the information relating to these Japanese wrecks has been gathered by Horace Davis and Charles Walcott Brooks, of San Francisco, and Professor George Davidson, of the U. S. Coast Survey. In Mr. Brooks' papers on this subject, read before the California Academy of Science, he says: "Small parties of male Japanese have repeatedly reached the American continent by sea, cast upon its shores after floating helplessly for months. Until recently, the survivors must have remained permanently near where they landed, and naturally uniting with women of the native races have left descendants more or less impressed with their physical peculiarities. Such a slow, limited, but constant infusion of Japanese blood, almost entirely from male seamen, was undoubtedly sufficient to modify the original stock of all coast tribes along our northwestern shore."

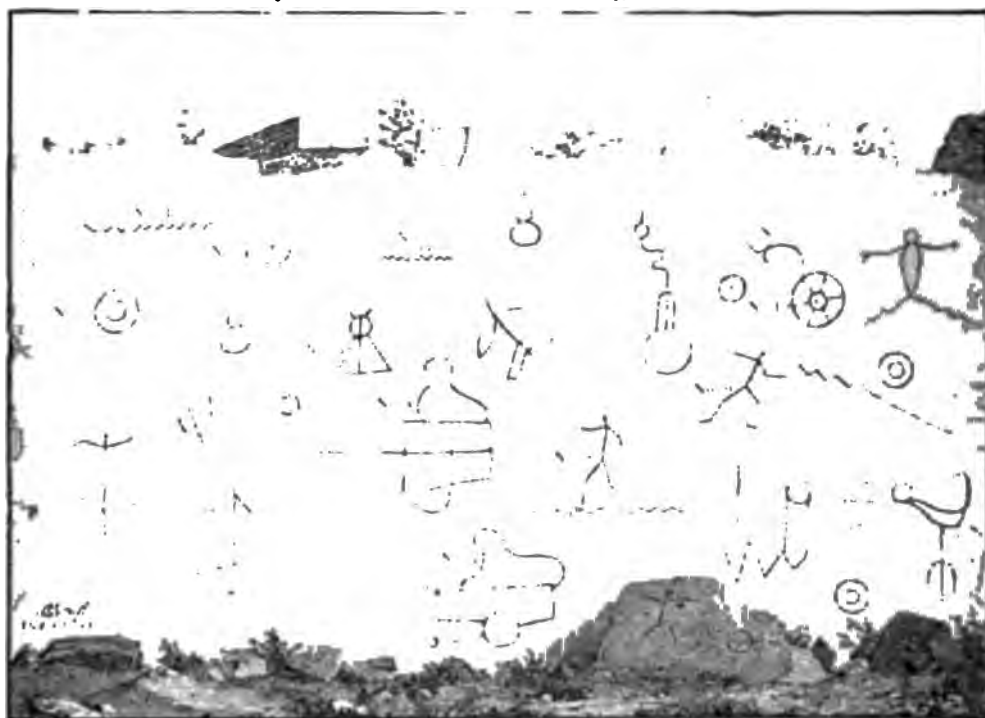
From this long continued infusion of Japanese blood into our coast tribes, has come the semi-civilization of which I speak. A few shipwrecked Japanese now and then has added strength to the slowly increasing breadth of mind—now a Japanese carpenter, now a painter, now a boat-builder, now a fisherman, now a basket-maker, now a priest, maybe—is thrown ashore, and slowly but surely the race is bettered, so that when the English-speaking race first met them they were a sedentary race. The Puget Sound tribes, like all the northwest coast people, lived in permanent communal houses, built on the primitive Japanese plan. It was from twenty to thirty feet wide, and from forty to fifty feet long, built one story, of cedar boards, well adzed to an uniform thickness. It had a front entrance, with from three to five or more fire pits and corresponding smoke holes, with sleeping bunks on each side of the house on raised platforms.

The body of the house frequently set in the ground two feet or more; the frame-work was of heavy posts, frequently carved to represent men or animals, while immense stringers were placed on these posts, as long as the house. Several families inhabited the same house, and the front entrance was nearly always towards the water. The canoes lay on the beach just in front of the door, and everything betokened a well-fed settlement of fishermen. The houses were well built, warm, comfortable, and of a size, character and design to protect the health of the inmates.

Editorial.

WHEELS AND LIGHTNING-RODS.

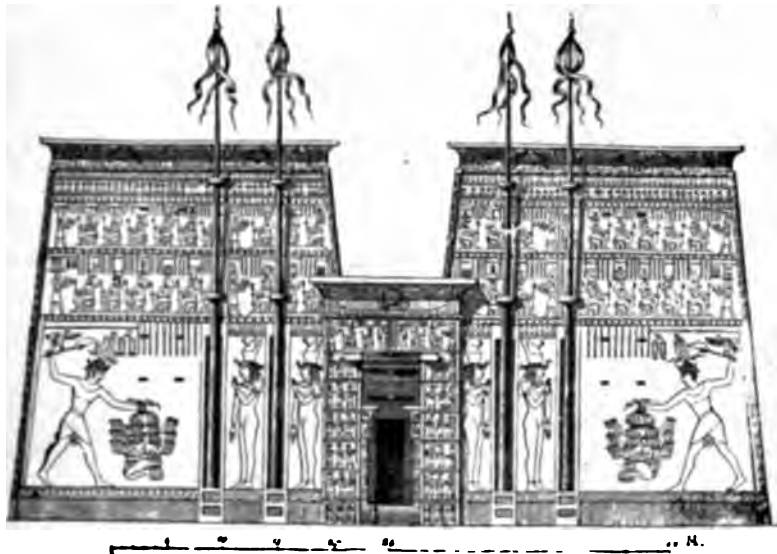
Several items have appeared in books within a few years conveying the idea that certain inventions which are very common among historic races might also have been known to pre-historic, or at least to proto-historic races. Among these inventions the



ANCIENT HIEROGLYPHICAL RECORDS. THE PETROGLYPHS OF THE SOUTHERN APPALACHIAN MOUNTAINS. (See page 26.)

most notable are the wheel and the lightning-rod. Mr. Desire Charnay maintains that the wheel carriage was known in America and Herr Brugsch that the lightning rod was known in Europe. An article in *Zeller* for November, 1883, repeats the opinion of the Egyptologist, and now the article by Mr. C. Standland Wake, in this journal, makes a fusion to the wheel and its motion as if it possibly may have been used as a symbol in this country. The subject is an interesting one, but the specimens of the symbol of a wheel in this country are so rare that it becomes a question whether it was ever used as a symbol here. We, however,

give a cut here which was loaned to us some years since by the Smithsonian. On this plate there are two figures of wagons with a tongue, and a peculiar figure resembling a sphynx on the wagon and other figures resembling wheels with spokes, and still others resembling human beings playing with lightning. How shall we explain these figures? The Zunis had wagons with tongues and solid wheels; they also had symbols of the circle with four and six parts, and they pictured the lightnings as symbols of the nature powers. Now shall we say that the wheels with the spokes and hubs and the wagon and the sphynx were pre-historic, or shall we discriminate and separate the historic from the pre-historic, the American from the Egyptian? We ask similar



questions in reference to the lightning-rod in Egypt. The only evidence is that given by the flag-staffs which were placed in front of the propylæ of the Egyptian temples. These staffs were capped with a sheath of copper, and were about one hundred feet high. There are inscriptions, which date at the time of the Ptolemies—323-320 B. C.—describing the staffs at Edfu, which read as follows: "At the main entrance of the life-giving horn, there is a pair of tall posts to cut the lightning out of the sky." The staffs are made from the wood of the ash tree. Now it is from evidence of this kind that some of the Egyptologists maintain that lightning-rods were used by the Egyptians. The Chinese symbol of the Tai-ki, the Hindoo symbol of the suastika, and the Egyptian symbol of the Lotus, were very ancient, but wagon wheels in America and lightning-rods in Egypt are anomalies which we should be slow to accept.

LIKENESSES IN PALEOLITHIC RELICS.

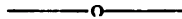
By CLARENCE B. MOORE.

In your last issue (Nov. 1892) on pages 350-351, is a letter from S. H. Brinkley, attributing to numbers of paleoliths likenesses of various animals. It is interesting in this connection to call the attention of your readers to the fact that Boucher de Perthes, in the latter part of his life, delivered in 1860, a discourse before the Société Impériale d'Emulation, reprinted shortly after in Paris, under the title "*De L'Homme Antédiluvien et de ses Oeuvres.*" On page 66 he says (to give a free translation.) "Yes, we have among them in miniature the mastodon, the megatherium, the megalonix, the paleotherium, etc.; these gigantic animals impressed the first men as they would have impressed us."

On page 67 we find, "in our antediluvian gallery you will find also different kinds of quadrumana, easily distinguishable by the expression of their countenance, notably when the eyes are indicated.

The faces of men, as far as one can judge by these coarse imitations, indicate the white or Caucasian race. More rarely one thinks he can recognize the negro type."

This publication, as well as "*De la Machoive Humaine de Moulin-Quignon,*"* also by M. de Perthes, wherein he describes certain human remains found with palaeoliths in the diluvium, failed to make an impression on the scientific world.



EDITORIAL NOTES.

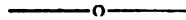
PRE-HISTORIC OR PROTO-HISTORIC. The discovery of various singular looking relics in the mounds of Georgia, Missouri, Tennessee and Ohio during the past few years have not only awakened considerable curiosity and attention, but has called out various theories from the archaeologists as an explanation of them. These theories may be divided into classes, one ascribing them to a common extensive commerce with Mexico and Central America, and another class explaining them as the result of deposits in the mounds by Indians in post-Columbian times. According to the first theory the copper relics which contain images with wings, singular bands and strange head dresses, found at Etowah, Georgia, the shell gorget engraved with emblems similar to the bas-reliefs of Central America, found in the McMahon mound, at Sevierville, Tennessee, and the shell gorget having figures taken from the mounds at New Madrid, were only proofs of intercourse with Mexican prehistoric times. The two hundred obsidian blades and the finely modeled copper found in the Hopewell mounds, are pro-

*Paris 1894

nounced as of Mexican manufacture, exactly as the figure of the llama found in Ohio, proves intercourse or trade with Peru in prehistoric times. According to the second theory many of the same relics are pronounced by those who are regarded as good authority on archaeological matters, as the result of contact with the Spanish and Dutch in early historic times, and are used as proofs that the modern Indians were accustomed to build all kinds of mounds, and to place in the very depths of these mounds relics which were made in post-Columbian times. Now this discrepancy between the theories of intelligent archaeologists and of the collectors shows one thing very plainly; namely, that there must be much more careful superintendence of all explorations in the future and much more pains taken to discriminate between the relics of one age or period and those of another. It does not seem probable to us that the trefoils, the fish, the square armed suastika, the cross-hatching on ivory, and the other mediæval symbols could be the mere product of an aboriginal development, and we are inclined to ascribe to most of them a post-Columbian origin, and at the same time we object most decidedly to classifying modern relics with genuine products of the Mound-builders' age, or even with the specimens of native American prehistoric art, and calling them all Indian. In the early days of mound exploration silver sword-scabbards and iron implements were described as taken from the mounds, and wonder was excited by the finds, but persons in these days who excite wonder without pointing out the difference are certainly going backwards. We remember distinctly a letter written to Mr. Moorehead while these finds were being made, stating that it was exceedingly important that the symbolism should be carefully studied, for symbolism was a test by which we may decide about the character of the relics. We repeat this remark now, for we believe that the relic hunters and explorers generally need to read books as well as to use the spade. Exploration takes time and money and hard work, and is sometimes a thankless job, but unless there is an intelligent and scholarly and well-trained mind superintending and mastering the exploration, much of it will be only waste labor, and will bring nothing in return that is really satisfactory, but confusion will be the result. We think this fully illustrates the importance of using the "arm chair," which is so much sneered at by some, as well as using the spade, which is so highly flattered by others, and making every department and line of investigation work together in bringing out the very best scientific results.

ANCIENT CHEROKEE CUSTOMS.—The old warriors rehearse in the dance the dangers they have passed through, the enemies they have attacked, the distance they have traveled. It is a custom to give eagle feathers as tokens of friendship and in making peace. The Cherokees have a practice which they call making rain; seven men are chosen to represent the clans, who keep fast while the conjurer is obtaining rain. The conjurer observes a strict fast and bathes frequently. On these occasions he speaks a language not used by the clan and which few understand. When the rain comes he sacrifices the tongue of the deer, which is procured for the purpose. The same custom is found among the Cherokees which prevailed among the Aztecs; that is, the custom of making a new fire every year. This was done in the month of March. The fire is made by drilling in a dry grape vine, in the morning after dancing all night. Seven persons are chosen to

perform this, with the conjurer. After this fire is made, each family in the town, putting out all the old fires in their houses, come and get the new fire. The number seven seems to have been a sacred number. The doctors supposed a cure could be made in seven nights. They also exclude from the place where the patient is, any who may have been handling any dead body or have any ceremonial uncleanness. The Cherokees are divided into about sixty-five towns and villages, containing from fifty to five hundred souls each. Over each town a chief is appointed, by the inhabitants, to manage their concerns. They do not, however, dwell compactly, but are dispersed upon the most easily cultivated ground. A town sometimes extends fifteen or twenty miles. According to an estimate the Cherokees have held more than nine square miles to every family, estimating five souls to a family this would leave about one person to every four square miles. It is supposed there are about twelve or thirteen thousand persons, of whom about three thousand will move west of the Mississippi. Their territory extends from North Carolina to the Mississippi river, and lies within the state of Tennessee and the northern part of Georgia. Its greatest length is two hundred and fifty miles, and width one hundred and fifty miles. The whole country contained 23,500 square miles or 15,054,720 acres. The color of this tribe is not so dark as that of most of our Aborigines. They are a well-formed, good-looking people, and have as fine countenances as can be found in any country. Many children, partly descended from the Cherokees, have yellow hair and blue eyes and fair skins. They have good intellects, are apt to learn and are capable of civilization. *From Dr. Worcester's account in the Missionary Herald.*



BOOK REVIEWS.

The Gilded Man (El Dorado). By A. F. Bandelier. New York: D. Appleton & Co. 1893.

The story of *The Gilded Man*, "El Dorado," contained in this book, grew out of a Peruvian custom. Besides the worship of the sun and moon, there was a kind of feticch worship or water cult by which each lake was made the seat of a certain divinity, to which gold and emeralds were offered. At the inauguration of a new chief, a procession was formed of men richly decorated with gold. The chief himself was covered with gold dust, which was attached to his body by resinous gums. He was taken to the lake and plunged into the water and washed of his metallic covering, as an offering to the lake.

This legend was known to the Spanish and led them to a prolonged chase for the fabled El Dorado. The book contains a description of this chase for gold. The first part contains a critical account of the adventures of the Spanish in the region of Chinqui, Veragua, New Granada, Venezuela, Orinoco, Quito, and many other places in South America. The second part is devoted to their adventures in Florida, New Mexico, the Rio Grande, Colorado, and the regions east of the mountains called Quivira. The latter part is the most interesting, as it gives a somewhat connected account of the wanderings of Cabeza de Vaca, of Coronado, and the subsequent occupation of Cholula up to the time of the massacre in 1519.

It is a critical narrative and has nothing of the style which its novel title

might suggest, but is nevertheless a most valuable book. In fact, one who wants to know about the history of the Pueblos and Cliff-dwellers, can hardly do without it. The history is carried back to the times of the conquest only, but it throws light on what may have been the previous condition of the mysterious people.

Comparative Philology of the Old and New Worlds, in Relation to Archaic Speech. By R. P. Greg, F. S. A., F. G. S. Accompanied by Copious Vocabularies. London: Kegan, Paul, Trench, Trubner & Co. 1893.

This book has an introduction which is both interesting and valuable, for it contains a great deal of information in reference to what has been written about the origin of the American race, and brings out a great many points which have a bearing on the solution of some of the American problems. These problems have not been solved by the author, but the factors have been furnished which will enable the reader to make progress toward solution. The author takes up the different departments, language, race, craniology, traditions, geography and geology, and gives a resumé of much that has been written upon these subjects which has bearing on the American problem. He has not used all of the European authorities and certainly has not used the best known and most reliable of American authorities; in fact, does not seem to be acquainted with some of them, and yet, notwithstanding, the introduction is very readable and suggestive. In reference to the American languages, he quotes Mr. H. H. Bancroft, Horatio Hale, Mr. Hyde Clark, and several other authors, but leaves out Dr. D. G. Brinton, Major Powell and A. S. Gatschet and other members of the Ethnological Bureau. In reference to the origin of races, he quotes Prof. Boyd Dawkins, Quatrefages, Wilson, Wallace, Topinard, Huxley, but does not refer to Brinton's books, or even to Peschel, Featherman, Morgan, or even Pritchard or Ellis or Teale.

He, however, breaks away from the bondage of the autochthonous theory, and gives the opinions of those writers who hold not only to the contact, but to the peopling of the American continent by Asiatic, African and ancient European races. He says that the Polynesian, Papuan and Malay linguistic element is well marked in America, but the Semitic is scarcely noticeable. He gives a brief resumé of the views of different authors, such as Rev. J. C. Black, and A. H. Sayce, in reference to the ancient Accadian race as connected not only with the Ugro-Altaic, or so-called Siberian, but also with the Chinese, Egyptian, Hittite. This brings the author to the position that the "Turanian" may be made to embrace nearly all pre-Aryan or primitive Asiatic races, a position which is taken by many, but remains to be established, for the term Turanian is a very indefinite one.

In reference to the original seats, starting points, of the Aryans, he gives a summary of the opinions of Dr. Huxley, Canon Taylor and others, quite similar to that which has been given in the various magazines, but does not accept either the Scandinavian theory, or even the European paleolithic theory, but looks to the Thibetan region as the original seat. He quotes the opinion advanced by Mr. C. Stuart Glennie, that there was a great sea, which might be called Asiatic Mediterranean or Eurasian sea, which once separated Europe from Asia, and included the Ural, Euxine and the Bosphorus, but which broke away in some ancient day and made the flood which has been handed down in Chaldean tradition. The earliest races, according to

Gleanie, were settled in this region, called Eurasia, but scattered to the west, east, north and south, making the "ground" races of the different continents. A very pretty theory, but one which needs to be proven.

As to craniology, the author gives a resumé of the opinions of European writers, but refers to few American writers. He maintains that the American race was made up of different races, some of them long heads and some of them short heads, but does not identify them by any actual specimens; merely refers to the opinions of the different authors. The Mongolian race he calls moderately brachio-cephalic. The Patagonians and Eskimos are dolicho-cephalic, long heads. The Malays, he thinks, were short heads. He speaks of an earlier and later race as apparent in South America, and in various parts of North America, the dolicho-cephalic contemporary with the pachydermata, the brachio-cephalic identical with the Mound-builders. This, again, is a very pretty theory, if it can be proven.

The American ethnologists perhaps will gain an impetus from the suggestion, and may conclude that there were different races on the American continent, as different as there were on the European or Asiatic continents. In that case the term Indian will mean about as much as it did in the times of Columbus, and about as much as the term Turanian does now, and include the representatives from India, Mongolia, possibly north of Europe and western Africa.

With respect to the origin of the American races, the author quotes Canon Cook as saying they undoubtedly belong to the Scythian or Turanian; Dr. Edkins, of China, that there may have been a Polynesian emigration by the Pacific into America; Mr. Hyde Clarke as favoring the affinity of the Amazon tribes and those of Guinea and west Africa, and refers to Mr. W. H. Goodyear (spelled Goodfellow) as holding that there was intercourse between ancient America and ancient Egypt certainly a great many lines of communication if these theories are all true--about as many lines as we have of the ocean steamships at the present time. There is a freedom about the book which is somewhat refreshing after being held down to the limits of one continent so long, but whether the freedom proves to be an illusion or a reality remains to be seen. Some of the linguists say that the list of vocabularies which are brought together as a basis for these various opinions, show a great deal of "misapplied labor." On this point we have nothing to say, for we know nothing about it, but the introduction is certainly valuable as giving a resumé of the opinions of European writers on American subjects, and so we commend it to our readers.

Myths of Greece and Rome. Narrated with special reference to Literature and Art. By H. A. Guerber, lecturer on mythology. New York, Cincinnati, Chicago: American Book Company. 1893. 428 pp., 12 mo.

The best part of this book is that which has been furnished by the publishers, namely, the art illustrations. There are in the book full page plates, which represent the various scenes and events described by ancient classic mythology, all of them taken from the best paintings and the best pieces of statuary, both ancient and modern. The best of these are as follows.

Council of the Gods, Raphael; Amor (or Cupid), Martin; Fountain of Cybele, Madrid; Minerva and Prometheus, Thorwaldsen; Ganymede and the Eagle, National Museum, Naples; Iris, Guy Head, Apollo Belvedere, Vatican, Rome; Farnese Bull, Aurora, Guido Reni, Niobe, Vatican; Triumph

of Venus, Barrias; Hero and Leander, Bodenhause; Venus de Milo and Mars; Father Nile, Vatican; Hercules, the Infant, Louvre; Fortuna, Vatican; Hercules and Lichas, Canova; Perseus and Andromeda, Coypel; Venus with the Apple, Thorwaldsen; Parting of Hector and Andromache, Maignan; Thetis with the Garments of Achilles, Gerard; Laocoon, Vatican; Circe, Riviere, Nest of Sirens, Beaumont; Penelope, Vatican; Æneas at the Court of Dido, Guérin; Cumæan Sibyl, Domenichino.

To look through this book is like visiting a gallery of the best paintings and having a friend to tell us about the scenes which are illustrated, and having a catalogue in hand to tell us the names of the paintings.

Very little is said in the letter press about the paintings, for the author writes as a lecturer on mythology, rather as a connoisseur in art, but the publisher has taken the pains to give us the names of the best and has reproduced the works of art in a very beautiful and excellent way. "A thing of beauty is a joy forever," and so the book cannot but give great pleasure to those who shall purchase it and look at the pictures which are contained in it, and who then read the brief descriptions taken from the classic mythologies of both America and Rome, and the price is low—\$1 50.

The Mark in Europe and America. A review of the discussion on early land tenure. By Enoch Bryan, President of Vincennes University, Indiana. Boston, U. S. A.: Ginn & Co. 1893. 164 pages.

There are three kinds of land tenure, only one of which is considered in this book. They are as follows: First, the tenure which came from the tribal occupancy, the tribe or clan holding the land in common without division or even title; second, the tenure which came from the ownership by a community, the ownership coming sometimes by purchase, sometimes by conquest, sometimes by mere occupancy; third, the tenure which comes from the property in severalty, or ownership by the individual. These different kind of land tenure have appeared in different periods of progress or incident to the different stages of society. The first, the tribal possession, obtained in pre-historic times; the second, obtained nearly historic and mediæval times; the third is the tenure which prevails at the present time.

The author takes the middle period, and considers the land tenure which was common in Germany in the early and mediæval times. He takes his position against what is called the German mark theory, and opposes the "Germanists," but nevertheless brings out many interesting points. It is gratifying to find that several American writers are giving attention to this subject from the historical and ethnological standpoint, that the vagaries of Henry George and others will be likely to be exploded by this means. There are some advantages which America presents for the study, not to be found elsewhere. Still it would be more gratifying if these writers would take all three of the periods as the object of study, rather than the one period, for by this means they would see the real line of social progress. The subject has been treated in Europe by such books as Maine's *Gommes*, Seeborn's *"Village Communities,"* Coulange's *"Origin of Property,"* Maurier's *"Land Tenure,"* and others. The books which have been written by American writers are L. H. Morgan's *"Ancient Society,"* R. Denman Ross' book, Professor F. W. Allen's Essay, and this book, Bryan's *"Mark in Europe and America."* The majority of these books, and in fact all but Morgan's *"Ancient Society,"* are based upon the study of the middle period,

and especially of the German mark, the disadvantage of them all being that the feudal system is a barrier in their way, and the preceding tribal system is so poorly known.

To one who wants to go back to the origin of things and trace the line up from the pre-historic period and see how the tribal system changed to the feudal system, the study of aboriginal life in America is an absolute necessity, and the mere study of Germanic laws and customs will continue to be unsatisfactory. It is one point in the so-called mark theory, as held by Morris, that Teutonic society began in communal organizations, in which every family was free and on an equality, but finally changed to the feudal state, in which society was graded into three ranks, feudal lords, serfs, and slaves. The theory advanced by Coulanges and by President Bryan is that property in severalty took place before the feudal times, and that there was no such thing as a communal tenure. The works of Tacitus and Caesar are referred to as evidence, but these writers describe the German tribes as nomads who were constantly moving in wagons. If they settled down for a time, they built them strongholds, which became vitrified forts, and were partially agricultural and partially hunter in their habits. Now the point which we make in connection with the tribal state as shown in America is, that individual ownership, property in severalty, did not take place while the tribal state continued. There was certainly no property in severalty in America, though there was a communal organization, in which every family was free and on a level, the holdings were distributed to the family year after year. These holdings were connected with the villages, as the people went to the fields from the villages at certain hours, which were called out by the town crier. This was at least the case among the agricultural tribes of the Gulf States. Among the hunter tribes of the northern states the village was generally the home of the clan, but it was protected by the stockade fort. The men were hunters and the women were the cultivators of the soil. There was equality in both of these stages, the family was a part of the communal village. If slaves existed they were made such by being taken captive in war; they were merely hewers of wood and drawers of water.

In the irrigated regions, the canals and the field culture were under the control of the Pueblo village. In the civilized races, the clan ownership continued, but the king had lands, which were similar to the crown lands, which were cultivated by retainers, and the entire products went to the support of the king and his family. In this series we have a picture of the rise of the feudal system in Europe, as well as of the land tenure which appeared in Greece. The village is the factor which forms the controlling center, and which gave organic unity. The village was not the home of separate land holders, but was the home of the clan. When the kingly office arose in Greece, Kleisthines introduced landed property, instead of tribal or clan occupancy. This was a cataclysm likely to occur at any time, and it did occur in medieval Europe. There was a similar cataclysm in Mexico and in Peru, but property in severalty was not reached by any of these nations, nor was there any land tenure among them. It was because there were so few free holders that feudal despotism arose in Europe and monarchism in America, but it is the property in severalty and individual land ownership, and the permanence of land tenure which is at the basis of our free institutions, and a safeguard against monopoly.



THE OLD BEAR WITH MEDICINE PIPES.

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THE ORIGIN OF THE IROQUOIS.

By REV. W. M. BEAUCHAMP.

To classify nations by language seems one of the safest of rules, where the language is clearly known, but it helps us very little with prehistoric communities, except as they are connected with later days by evidence of other kinds. Many early nations can only be distinguished by what they have left behind them. The houses they built, the tombs they made, the implements they used, the walls they raised, the ornaments they wore, help us in some degree to connect one with another. Not always with certainty, however, for there was an aboriginal commerce, an early warfare, [which somewhat confused a few of these things. Allowing for this, archæology is one of our best guides in early historical research among buried nations.

We will not overlook traditions and customs, or the facts and inferences to be gathered from early writers, but there often comes a limit where these fail. Then we fall back on the work of men's hands.

It is proposed to use the older means in connection with the later, that Iroquois history may be carried back a little farther than has yet been done. The villages and forts in which they lived have now been so fully examined, grouped and described, that this may safely be undertaken.

In a general way it is now known that the Huron-Iroquois occupied, in early historic and prehistoric times, both sides of Lakes Erie and Ontario, the River St. Lawrence, and much of the State of New York. In this territory were the Hurons, the Tionontaties or Tobacco Nation, and the Neuters, in Canada; and the Iroquois or Five Nations, with the Eries, in New York. Farther south, in Pennsylvania, were the Susquehannas or the Andastes, called Carantouanis by Champlain, and quite probably the Massawomekes on the south of the Eries. Farther

south still were the Tuscaroras in North Carolina, and the Cherokees in Tennessee, with some other small tribes. Some Iroquois forts appear in Michigan. The general description of the Massawomekes points to a nation of this family to the south of the Eries, whereas they are often identified with the Five Nations without sufficient reason. It need not be forgotten that there are Iroquoian traces in Pennsylvania far west of the Susquehanna. This paper will mainly treat with the Five Nations, but with incidental reference to the Hurons. The Eries and Neuters may be considered later.

Except towards the sea coast and along the Hudson river, the State of New York presents few traces of large settlements not of the Iroquoian type. Many hamlets and camps will be found differing from these, and a migratory population is revealed, coming from many parts, but usually as visitors. Some articles suggest the Eskimo. Potstone vessels, along the large water courses, were brought from other parts. The many articles of native copper and striped slate were often finished far from the places where they were found. Burial mounds are occasional, while some articles and implements are conspicuously rare. In strong contrast with these are the large sites, usually in groups, and with their contents much more homogeneous. They all have earthenware; many of them are enclosed with a bank and ditch, or a stockade, and sometimes with both. The arrows are usually slender and triangular; they have implements of bone and horn, even more than those of stone; they have no grooved axes; they all lack stone scrapers and perforators; as they become more recent they have modern articles mixed with the characteristic ones of earlier days. They show a large population, who were not merely hunters and fishers. These are the broad features of Iroquois occupancy, having subordinate distinctions in time and place.

Just how the Huron-Iroquois family originated it is hard now to say. Some traditions indicate a western origin, and facts might be alleged in support of this. Traditions, however, do not agree. The place of its greatest development is less mysterious, for nowhere was the population greater than north, south and east of the east end of Lake Erie. East of this, the numerous Senecas, and the smaller nations of the Cayugas, Onondagas, Oneidas and Mohawks, formed the Long House of the Iroquois. In a sense, too, all these nations had long existed when first known to the whites, having acquired varying customs and dialectal differences during their separation. Indeed, when Champlain came, the Hurons and Iroquois were engaged in a deadly warfare, though not one of long previous continuance. Matters were more peaceful when Cartier visited Hochelaga. He met people of this family at the mouth of the St. Lawrence, but farther references will be made to that part of the river.

The general grouping of the Huron-Iroquois sites, in New York and Canada, will commence on the northwest, with the Tionontaties, or Tobacco Nation, whose sites are numerous and well known, but largely of the historic age. These are mainly in Nottawasaga and Collingwood townships, Ontario, Canada, and on the west side of the broad river valley, which separated them from the Hurons on the east. Forty per cent of their villages were recent. The prehistoric Huron sites are mostly on the west side of the Huron district, the later ones more easterly, between Lake Simcoe and Nottawasaga bay. A large proportion is recent. South of these were the Neuters, whose territory has not been so fully explored, but in their country and farther west, are some earth-works which are quite old. The Huron sites do not extend far east of Toronto, and there are no more of this type until Prescott is reached, on the north side of the St. Lawrence, where a small group occurs. Hochelega, at Montreal, is a well-known site, historically and by examination, but little attention has been bestowed on the lower St. Lawrence, where the family was first known.

South of that river is a small group in St. Lawrence county, New York, and a very large one in Jefferson county. This last had either a large or long occupation. Prehistoric earth-works abound, and there are a few ossuaries and mounds. The occupants must have formed a distinct nation, and there are good reasons for supposing them the ancestors of the early Onondagas. The upper part of the Mohawk valley had but a very few small early hamlets and camps. These were on the north side, and not of the Iroquois family. Farther east, between Utica and Schenectady, is a large group, mostly or entirely recent. There the Mohawks lived, and almost every large village site can be dated with certainty. One only has been assigned to the distinctly prehistoric age, while Squier says that European articles have been found on it. The occupation of the valley was very recent, indeed. Another small group, mostly of the historic age, occurs in Madison county, where the Oneidas lived, and this connects with the historic sites of the Onondagas, in the southeast part of Onondaga county. A group, commencing in the southwest part of Oswego county, runs through the north part of Onondaga, and through Cayuga, mostly prehistoric. The villages in the south part of Cayuga county are mainly modern. West of Cayuga lake early works again appear, mixed with modern, and increasing in number to the Genesee valley. A large group appears in Erie county, reaching into the adjacent counties on the east. The southwest part of the state is occupied by the largest and most important group of all, having strong earth-works, and many mounds and ossuaries. The latter become rarer to the eastward. Some small groups have not been mentioned here.

The clearest evidence we have of the migration which pro-

duced one of these groups we find in the case of the Mohawks, and it is embarrassed with no side issues. Perhaps one large village existed in their territory some time before A. D. 1600, but even this is doubtful. Close and constant examination shows that early travelers, hunters and fishermen, rarely passed this way eastward, preferring the St. Lawrence for its many great advantages. There is an utter absence of many familiar relics all through the valley, and for a long time it had few or no inhabitants. On the other hand, the large site supposed to be earliest of all, is said, by Squier, to have afforded European relics, though later explorers find none. There are, however, plain suggestions of a knowledge of European articles, and a grooved boulder brings its date near the close of the sixteenth century, the time when these were used. The other early village site has afforded two brass beads, and many fine examples of pottery with human faces and figures on the angles, such as were made from about 1600 to 1640. This occurs also on Onondaga sites of that period. The remaining villages are well supplied with European articles. This agrees with the Mohawk tradition of two hundred years ago, that they left Montreal and came to New York in consequence of the cruelty and insolence of the Algonquins, according to Charlevoix, late in the sixteenth century. It may be remarked that the relics of Hochelaga closely agree with those of these oldest Mohawk castles. The two old towns also emphasize the fact so long ago mentioned by Megapolensis, that at first two of the three Mohawk clans lived together, instead of having a town for each, as was the case a little later. They afford also an approximate date for the formation of the League, which could not have been far from 1600, before or after. It is worthy of remark that the Mohawks, living so long on the St. Lawrence, naturally saw more of the Hurons, and more closely resembled them than the other nations did, as their language shows. The well-known story of their flight from Canada first appeared in print nearly two hundred years ago, but was known much before this. The familiar statement of Pylæus as to the date of the formation of the League need not be repeated. Critical examination of the ground shows that the Mohawks entered their country at this recent time. The situation of their first towns show that safety was of prime necessity. One of these was four miles south of the river, in a very strong position; the other ten miles north of the stream, in an equally strong place. It was the same with the Oneidas and Onondagas, though in a less marked degree, they being also exposed to and fearful of the wrath of the Hurons and Algonquins. Every fort of these three nations, occupied about or a little before 1600, was secluded and strong. It is interesting to go over these sites and see the gradual increase of European articles, and the tendency to come out of their hills and nearer the water courses, as they felt stronger

and more secure. The advance in some of their own arts is also plainly marked. With new materials and tools, they did things before impossible.

The Oneidas were closely related to the Mohawks, who sometimes called them their daughters, and were probably near neighbors to them in Canada. Their homes may have been a little above the rapids of the St. Lawrence, with two groups of forts from which to choose. Like the Mohawks, they found an unoccupied territory, and retreated to its highest hills. If Gen. Clark's identification of the fort which Champlain attacked in 1615 is correct, as seems probable, it was built by them and not by the Onondagas. The Fenner site is a curious one, and the quadruple stockade, which seems to have had no postholes, must have been built out into the shallow pond. The village was in the Oneida territory, and had in it a large bowlder, twelve feet long, which seems to have been the first Oneida stone. At the very time Champlain attacked this village, the Onondagas had a fort many miles away, on the east side of Limestone Creek. This seems the oldest Oneida town, though there may have been another towards Cazenovia Lake. In their neighborhood there were no earlier villages to add to their three clans. From this secluded spot they gradually moved northward, tarrying long at several spots near Munnsville, but on the east side of Oneida Creek, and at last reaching the lower lands at Oneida Castle in 1756. The story that they dwelt near Oneida Lake at an earlier day is without foundation. The People of the Stone certainly lived at first near some conspicuous stone, but at last a bowlder of no great weight served as their symbol.

As a people, the Onondagas also entered upon a vacant land. In all that large part of Onondaga county, where they made their constant homes, no nation had ever dwelt before them, and early camps and relics are very few in number. Their name came from their homes, and meant the People of the Great Hill, and this name they could hardly have had at an earlier day. In general it is very easy to trace their successive seats after their first settlement. One site alone is a little perplexing, because, while it is reputed to be recent, the writer has never found any but early relics there. It may have been earlier or later than the end of the sixteenth century. Of another nominally prehistoric fort there is no doubt. It was certainly occupied at the beginning of the seventeenth century, being apparently the oldest of the group. After Champlain's invasion the Onondagas retreated farther up the valley, to a more commanding situation—in fact, several of them; but gradually moved down the valley again, on the west side, until they came to Indian Hill, where the French found them in 1654. They formed outlying villages to the westward, and at last transferred their fort to the Butternut Creek, where it was burned in 1696. Their cabins gradually

went thence to Onondaga Creek, some miles west, where their town was on the east side of the valley for some years, the complete transfer to the west side occurring before 1750.

These were the changes in the three last centuries. On the strength of some relics it may be inferred that most of the Onondagas came from Jefferson county, New York. The barbed bone fish-hooks of New York have been found only in these two counties, and then but sparingly. One from Jefferson county is of uncertain date, as are two from Onondaga, one of which may not have been barbed. One is from the Onondaga village of 1600, whence the age of the others may be inferred, all being plainly of European pattern. There is a plain suggestion of the peculiar Onondaga pottery in some from Jefferson county, and some peculiar pipes belong to both counties. The early village mentioned, and some others near it, is connected with the earlier Mohawk sites by this pottery. The large, grooved boulders are also most common in this Onondaga group, fixing their age, and the sequence of sites is perfect throughout. But the Onondagas had eight clans, while the Mohawks and Oneidas had but three, and the inference is that they adopted others, either before or after their migration. If there were villages not too far off, it is quite probable that they took these in almost at once, or by degrees. Their own story is that they migrated many hundred moons ago, from the north bank of the St. Lawrence, and that straggling bands first came, followed by a national removal. The Bear and Wolf clans sprang from the ground at Oswego Falls; the Eel and the Turtle from Seneca river; the Deer and Eagle from the Onondaga hills; the Beaver and Heron (Snipe) from the earth at Lake Ontario. Along the Seneca river were some early towns of Iroquoian type. Again the rare barbed hooks play their part, as well as other relics. On two village sites opposite each other on the river, these have been found, and the presumption is that they were not far apart in time. The other earth-works and stockades in the vicinity may have been earlier, or may have furnished clans for the new nation in the highlands. That part of the Onondagas came from Jefferson county by way of the old trail across the foot of Oneida lake, and others by way of Oswego river is quite probable, but there are no intermediate earth-works north of these. An early name of a creek in Jefferson county means, *Where the Iroquois League was formed*, perhaps an agreement preliminary to the migration; and Pouchot said, in 1763, that the Iroquois declared that they came out of the ground at one of the branches of Sandy Creek. It attacked by the Canadian Indians, they might well put a difficult wilderness between them and their enemies, and seek a refuge in the great hills. The migration of these three Iroquois nations seems the direct result of the Canadian war.

Whether the earth-works in western Onondaga and the

middle of Cayuga had anything to do with the origin of the Cayugas, may be questioned. The forts and relics differ from the Onondaga types. Some seem recent, and others quite old. They might be ascribed to the Andastes' migration, with reasons for and against this, or they might have founded some Cayuga clans. When first known, this nation lived on Seneca river, and on the lake whence they had their name, and may long have done so. Like the Senecas, they seem to have parted company with the Canadian Iroquois at the end of Lake Ontario, thus causing an early variation of dialect and character, but they had not long dwelt on Cayuga lake. Their main seat at first was farther inland. The difference of language becomes a factor here. The Mohawks and Oneidas are most alike in speech, pointing to a recent division of their people. The Onondagas differed much from all, and had probably long formed a very distinct community. The Cayugas and Senecas were quite different in speech from all these, indicating a more remote separation at the west. All three of the western nations used some earth-works in historic times, though preferring the stockade as a rule.

The Senecas undoubtedly came from the west, being near of kin to the Eries, whom they afterwards conquered, and it is quite probable their language was the same. While there is no doubt that this large nation had long lived in New York, some importance is to be attached to their tradition that they sprang out of the ground near the head of Canandaigua lake. Some relics, especially a number of grooved bowlders, a little southeast of that lake, point to the end of the sixteenth century, which may have been their beginning as a united nation, a coming out of the ground into the lower lands, whence their name was *not* derived. They were the people of the Great Mountain, hardly a proper term even for their recent stronghold on Boughton Hill. But there were early forts and villages in their earlier resorts, where the name was applicable.

All who have read their known history will remember that the Senecas formed two great divisions throughout recent times. Their clans were more numerous than those of the other nations, at various periods being from nine to about a dozen. The natural supposition would be that the three clans of the Bear, Wolf and Turtle were the recognized nation at first, as without these no business was done, and that the others were added from time to time. When the Senecas proper came out of the higher hills, it is quite likely that the people of the lower Genesee united with them, placing that river between them and the Eries and Neuters. Such a union must have preceded the formation of the League in the case of those clans which were represented in the Grand Council. On the conquest of the Eries and Neuters, the Senecas formed settlements in the Genesee valley, and even farther west, and while there are early

earth-works there, most of the numerous villages from Seneca lake to the Genesee river are of modern days.

The Senecas were the last to enter the League and the most indifferent in it. In spite of their numbers they had but a moderate representation in the Grand Council, this being based on the attendance at the first one, in which the Mohawks and Onondagas showed most interest. The strong Senecas felt in little danger from the Hurons, having the powerful, and then friendly Eries and Neuters on the west.

When first known, all of their villages, four or five in number, were in the west part of Ontario county, and some of these were occupied much longer than was the Iroquois custom. At a later day they spread both east and west, as the earlier clans may have done. It is to be noted that all the nations may have had many nameless hamlets, and temporary fishing villages were common.

Champlain seems to distinguish the Senecas from the Iroquois, though he may have meant only the Mohawks by the latter. The Dutch always, and the English partially, made two divisions, the Maquas and Senecas, including the four western nations under the latter name. Champlain called Lake Ontario that of the Antouhonorons, and on his map of 1632, makes one group of the Iroquois east of the fort he attacked, and several groups of the Antouhonorons. In the note to this he is said to have waged war against the latter. It is also said, "The Antouhonorons are fifteen villages, built in strong positions, enemies to all but the Neuters. They and the Iroquois wage war against all but the Neuters." There seems at that time no clear knowledge of the Iroquois League.

In the grouping of sites for historical purposes, it must be remembered that Iroquois villages were not long occupied, and that each nation seldom had more than from one to five in use at a time. The lower number will do for the Onondagas and Oneidas; the higher for the Senecas. These were occupied anywhere from ten to twenty years, on an average. A fair estimate may thus be made of the length of Iroquois history, though by no means with exactness. An early date is impossible.

We have seen that early Iroquois accounts make them weak at first, and we find that they sought safe retreats in early days, but there is a vast amount of vague writing, giving them an ancient and general supremacy over all the nations. This came at last, but not until they had the white man's weapons. They are represented as receiving wampum tribute from the Indians along the Atlantic, as they did, but not in early days. Not a solitary shell bead, such as was used in belts, has ever been found on an Iroquois site older than 1620. The Mohawks naturally had it earliest of all. Indeed, Iroquois legends make Hiawatha the discoverer of wampum, and he must have been living about 1600, or later. Occasionally a large columella bead

appears on an early interior New York site; more rarely a flat bead made from the *Unio* shell, but the small beads are never found until the white man's articles appear. Neither has anything which would form a substitute ever been discovered. The *ancient* wampum belts are a delusion.

Space has not permitted some details to be given which affect the foregoing conclusions, often strengthening them materially. It may be enough to say that they are the result of many years' study, long and close examination of sites and relics, a good deal of travel, and much correspondence with intelligent workers. There was no orderly dropping of the nations in their later seats, such as David Cusick describes, and such as many later writers have believed. There was little of development of one nation from another. The Five Nations were early offshoots from one parent stock. Most of them were fugitives, seeking to save their lives, turning at bay, and asking what they could do. In union they found strength, desperation made them brave, weakness taught prudence, and through their misfortunes they were conquerors.

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THE CHOCTAWS IN MISSISSIPPI.

BY JOHN A. WATKINS.

At what time the Choctaws settled in Mississippi is as much a mystery to-day as it was three hundred years ago. The oldest traditions are so vague and uncertain that they are not entitled to any consideration, though historians of a recent date have attempted to solve the problem, and have reached conclusions apparently satisfactory to themselves, if not to their readers. While they have clung to the pole, the dog has disappeared; even Alabama—"here we rest"—has been degraded as mere "vegetable gathers," while the Alabamas exist only in the name of a state.

The Choctaws owned and occupied more than half of the most valuable and fertile lands in Mississippi, and were an old nation when DeSoto penetrated the country in 1539-42, to the Chickasaw bluff, the present site of Memphis. His line of march was harrassed and retarded by several Indian tribes, including the Choctaws, which frequently compelled him to change his route, though he finally succeeded in reaching the point of destination, which gave him the first view of the Mississippi River, and made his name memorable as a discoverer.

I became familiarly acquainted with the tribe in 1813-14, during the Creek war, at which time, in the fall of the year, they came into Jefferson and other southern counties in large numbers—the women to pick cotton and the men to hunt in the

Louisiana swamps, where game, at that day, was very abundant. Arrived in a neighborhood where they could find employment, saplings were cut down, posts firmly planted in the ground and trees, such as the poplar and sweet gum, were stripped of their bark, and in a brief space of time they had comfortable huts, three sides being securely covered by the bark, while the fourth, fronting the south, was left open. Another indispensable addition was made—in a log or the stump of a tree a hole was cut about a foot deep, in which they pounded their corn, after the husks had been removed by being steeped in lye, and of corn thus treated they made delicious hominy, a diet in great favor both then and now with southerners. When young, I often partook of their homely fare, and though they were not noted housewives, I was not then critical in matters of diet. I could eat their hominy and jerked venison with a relish, and even at that early day the pipe was presented to me with as much gravity as if it had been presented to a man of distinction.

The Indians were famous hunters. In the winter they passed several weeks either on the Yazoo and its tributaries or the swamps of Louisiana. When a sufficient supply had been obtained, their venison having been jerked, the skins dressed and the oil extracted from the bear, if they had been so fortunate as to kill one, their stock in trade was taken to market and exchanged for powder, lead, blankets, and such articles of dress as were suited to the women. I have frequently been present when some of the hunters returned from an excursion to the Louisiana swamps. They were proud of their success, and were fond of relating their adventures, the perils they had encountered, and the number of deer they had killed. During the recital no interruption occurred, nor was a question asked; but when the speaker came to a pause, and sufficient time had been given for the collection of such little fragments as had been overlooked or forgotten in the narrative, then, and not till then, did the conversation become general. They were good talkers and patient listeners, and in the latter trait they might serve as an example to those who affect a higher order of refined and intellectual culture. One word as to the dress of the men, which consisted of a breech-clout, buck-skin leggings, moccasins and blanket. The moccasins were frequently ornamented with beads or the quills of a porcupine. Occasionally they might be seen with a deer-skin hunting-shirt.

In 1820 they ceded to the United States, at Doke's Station, all their lands in the southwest, lying between the Mississippi River and the Yazoo, which gave rise to the "net proceeds" claim, of which I shall speak later on. In 1830 they voluntarily sold the balance of their lands to the United States and removed to their present home in the Indian territory, leaving, however, about 2,500 of their tribe who refused to emigrate, as, if dissatisfied

with their new homes, they would have no means of returning to those they had abandoned. Few of those who remained have prospered; some, however, have made a partial success in agriculture and stock raising; the majority are mere day laborers, barely realizing enough to supply food and clothing. Although schools have been established for their education, under the able superintendence of H. S. Halbert, Esq., their hostility to the English language is as violent to-day as it was in the beginning of this century. In my youth I met many of them who could speak our language, but they spoke it rarely, and not then from choice. They only made use of it when there was no other medium of communication. They were passionately fond of jewelry, both men and women. The former, many of them, wore a silver ornament suspended from the nose—thin and circular, rather larger than a half-dollar; while the women wore ear-rings, chiefly silver and generally circular, also bracelets of silver. I have frequently seen ornaments of the same kind for the ankles.

About 1801 the government applied for and obtained the privilege of making a road through the nation, to facilitate the transportation of the mail between Nashville and Natchez, but the grant was coupled with a condition that the Indians should have the exclusive right to all the ferries and public houses established on the road, which was a point of great interest to them, as it proved a vast source of profit, and was evidence that in business and diplomacy they were seldom overreached. As a precaution against having the mails tampered with, the bags were thickly studded with heavy brass nails, which made them proof, without great difficulty, against attempted robbery. For many years the mail was carried through the nation without accident or unnecessary detention. The Indians ridiculed the precautions against robbery, which I have often heard them say "made the Indian knife laugh." The esteem of the Choctaws for the white man is embodied in a single word, "*nahullo*," "beloved people," which they still apply to those who have robbed them of their lands and taught them many of the evil habits which are practiced in the name of civilization. It is not often that we find men who kiss the rod and hail as *nahullo* the hand that strikes the blow.

The Choctaws were a moral people, until by association they contracted some of the vices of the white man, such as drunkenness; but when I first knew them they were honest and truthful. I have trusted many of them and was never deceived. They held in contempt and loathing the man who spoke with a "forked tongue." Association may, to some extent, have had its influence on their character, but none of these came under my observation. They had but few laws, but these were rigidly enforced, especially against homicide, which was rarely suspended or condoned, and then only under extraordinary circumstances.

Minor offenses were sometimes punished with stripes. When quite young, I saw a man whose head had been closely shaved for the violation of some law, but what the offense was I did not learn, as I was then too young to hazard an inquiry.

In my youth I formed a very close friendship with two Indian boys, both of whom were my seniors by a year or two. We hunted in company, and they taught me the use of the bow and arrow. We played together in all the games common in those primitive times; wrestled, ran foot races, and became quite expert in the celebrated ball game, for which the Indians had such a passion that I have known them to lose blankets, clothing and all their personal effects on the chances of a game. This ball game was a national institution, in which all the males participated, no matter how degraded or elevated their positions. Here chief and plebeian stood as equals. It was an exciting game, but not being strong or active, I never became an adept.

In the winter of 1824-5, there was a large encampment of Choctaws on the lands of David Hunt, in Jefferson county, near my residence. As usual, the women were engaged in picking cotton; the men had just returned from a successful hunting expedition. They had sold their deer and bear skins, jerked venison and bears' oil, bought blankets, powder, lead and other articles of prime necessity, including an abundant supply of fire water (*ishko homi*), and as a sequence all of them, except one, got beastly drunk. It was a custom among them that one of their number should keep sober, to take care of those who were incapable of taking care of themselves, hence the adage, "one sober Indian," which at that day was in use among white men in like condition. There was another preliminary that was never departed from. The women, before the wassail begun, took from them their guns, knives and tomahawks, so if an affray should happen, they would be in no condition to inflict injury on each other. A young squaw attempted to take from my friend Jim his knife, but he resisted, and by accident cut her on the arm. The wound was not serious but being neglected, gangrene was the result. In the meantime Jim came to see me, and from his manner I was sure that something had happened to disquiet him. I questioned him as to the trouble; his reply was: "They shoot me." "Shoot you, what for?" "Mary die." And then he told me what I have related above. I advised him to run away. He looked at me with surprise, and then added, "they shoot John" (his brother). The girl died the following day, and the morning afterwards Jim was shot, though my father and several other planters, with whom Jim was a special favorite, attended the execution, to beg or buy him off, but their pleadings and offerings were rejected. It was the law. The guilty were never known to avoid the penalty by flight, for had they done so, their nearest relative would have had to take his place. This sum-

mary mode of enforcing the code, "blood for blood," made homicides exceedingly rare.

About the time Jim was shot, two men of the same camp had a quarrel, which, I think, grew out of the recent execution, which they agreed to settle with the rifle. They fought at the distance of fifteen feet. At a word, both fired, but with very different results—one was shot through the heart, the other was unhurt; but the survivor had to pay the forfeit of his life, being executed the next morning. Here men sought to kill each other by agreement, but this did not suspend the prompt execution of the law—nor would the survivor have attempted to evade it, even had he been without relatives to take his place.

An old gentleman, now a resident of this city, but formerly of Port Gibson, Miss., told me that in his youth he and many other boys had formed a very strong friendship for an Indian lad named Joe, with whom they daily associated, but in an evil hour Joe got drunk, a general fight was the result and in the melee Joe killed one of the Indians, either by accident or design. This he immediately communicated to his young friends, and told them that he must go to the nation, surrender to the family of the murdered man, and suffer the penalty of the law. Their persuasion against such an act had no influence—he only obeyed a law, so ancient and impartially executed, that it had grown into a sentiment. To resist its execution would have been a moral death. Finding that persuasion had no effect, they applied to Judge McDougal, the father of my informant, who, to gratify the boys, put Joe in jail, where his young companions daily visited and played with him, and did everything they could to divert his mind, but without effect. Finally they yielded to his wishes and obtained a release. He immediately returned to the nation and arranged the time and place of execution, came back to Port Gibson, played a few days with the boys, and, on the appointed day, accompanied by them, went to the plantation of Dr. Magruder, a few miles in the country, assisted him in digging his grave, into which his blanket and other effects were thrown, seated himself at the head of the grave, drew a rude cross on his breast with red earth, and was shot through the heart. The boys covered him over with earth. The law was vindicated—"blood for blood."

The wife was a slave to her husband, but she did not recognize it as a degradation. On the contrary, she took pleasure in performing those menial offices, which in their opinion, would lower the dignity of the man. They cultivated the little patch of potatoes and pindeers, and performed all those menial duties that are usually imposed on servants. I have often seen the women with a large hopper basket on the shoulders, sustained by a strap across the forehead, containing all their worldly effects, supplemented with a papoose securely fastened on the top of this

load, and carrying her husband's gun, while he walked in advance, with all the dignity of a sovereign. The woman simply performed a duty imposed by a custom so hallowed by antiquity that its performance was a pleasing duty.

The Choctaws were not only a moral, but after a code of their own, a religious people, as will be clearly shown in the following letter from my correspondent in Atoka, I. T.

ATOKA, Indian Territory, June 14, 1892.

Now as to the question you wish answered. I will do the best I can to answer, so far as I have been informed and what I have learned from them myself. Now, "What the belief was of the old Indians as to their future state?" Well, they believed in a *great spirit*, a *spirit world*, in *immortality*. The hunting ground was the "spirit ground," of which there were two different places. The one was for the good; those who were kind, hospitable, truthful and brave, and who were great hunters. This place was peace, happiness and contentment, with everything plentiful; where they met the bravest warriors and all who were worthy to go in and possess the land, where there was plenty of game, which was easily killed. The climate was such as could not be found anywhere else for its mildness. They could not suffer from cold and sickness. Now, on the other hand, the other place or "hunting ground" was miserably poor, and everything that was undertaken was sure to end in disappointment. Even the trees were so poor that hardly a bow and arrow could be made out of the wood. All the country had the appearance of a barren waste. The game, of course, was very poor, and the people were like skeletons, with a care-worn, disappointed look in their faces, and always hungry. That was the place for those who were mean, cowards, lazy, with "forked tongues" that talked two ways, on whom nobody could depend. The word "happy" was prefixed by the whites. They called it the "spirit hunting ground." As you will see, there was a place for each class. But when one died, good or bad, they were treated alike. They believed that the spirit of the dead lingered around the home and relations for three days after they were buried or put away. All of their possessions were put in the grave with them, except potates and a dog. One each of these was killed at the grave that they might be of use to them on the journey to the hunting ground. After this, the family and relations gathered certain kinds of roots and herbs, of which they made a tea to wash and bathe their faces and heads, that it might drive the spirits off, and to take their journey.

I could write many things, but must stop. This tradition was not manufactured by Col. Peter B. Pitchlynn, I know, from the fact that nearly all the tribe have the same tradition. Some believe in transmigration, but not of the five tribes of which we are the descendants. My information was gathered from recollections, of things related by themselves at my father's, who was a public man and a preacher for thirty five years. Many people visited him and my uncles, the Pitchlyns, the Harls and Folsoms. I also knew before.

The writer of the above letter was the daughter of Israel Folsom and the niece of David Folsom, one of the Choctaw chiefs. Their father was a white man, their mother an Indian woman.

I never witnessed the burial of but one Indian, and that was a child. I saw none of the preliminary ceremonies, but for several days afterwards the women came and seated themselves round the grave, drew their blankets over their heads and chanted in low notes what I suppose was a requiem for the dead. That chant has long lived in my memory, but the words were so obscure that they have only left a faint trace.

In early times, when white traders were permitted to enter the nation, it was very common for them to choose an Indian wife, and from these alliances some of the first families are descended, such as the Fulsoms, Pitchlyns, Hales, Lefleurs and others. These amalgamations were not only tolerated, but encouraged; under no circumstances, however, would the Choctaw amalgamate with the negro. I never knew an instance of the kind, and this fact, I am assured by Mr. Halbert, superintendent of Indian schools in Mississippi, holds good at the present day among the remnant of the tribe that refused to go west. He says that none of them have ever mingled their blood with a negro. Polygamy was justified on the ground that every woman should have a husband, but as the casualties of war often reduced the number of men, the discrepancy had to be supplied by a plurality of wives. A very convenient hypothesis.

I here introduce a letter received in the summer of 1891 from my friend H. S. Halbert, giving an account of an old-fashioned Choctaw wedding in Jasper county, Mississippi:

GARLANDVILLE, Mississippi, August 19, 1891.

DEAR SIR—According to promise, I will give you some account of that old-fashioned Choctaw wedding, to which I was an invited guest. I will here first say that all our Mississippi Indians that are converted to Christianity now marry after the style of white people. This old-style marriage was between Miss Susan Simpson and Mr. Oliver Chubbee. When I arrived on the marriage ground, which was about nine o'clock in the morning, I found a large crowd of Indians present, and extensive preparations were going on in the way of cooking up the big dinner, which was to follow immediately after the marriage ceremony. The place was a kind of glade in the woods. Pots, kettles and pans were there in profusion, and a number of Indian women were immersed in the culinary operations, preparing beef, bread, coffee, paska banana, tauch lobuna and other Indian dishes for the marriage feast. About eleven o'clock the long table was set, and it was announced that the marriage would now take place. Miss Susan then modestly made her appearance on the spot selected for the ceremony. A shawl was spread upon the ground, upon which she seated herself, and four men then took another shawl and held it, one at each corner, over her head. *Halbena, halbena* (presents, presents) was the cry that now resounded on every side. Forthwith many come forward and threw their presents on the shawl upheld by the four men. These presents consisted of bundles of calico, ribbons and other female paraphernalia, and even some little money—whatever, in fact, the donors chose to give. The presents, however, are not for the bride, but for the female relations. They are intended as a kind of remuneration to their relatives for their assistance in cooking the marriage dinner. When all the presents had been deposited on the shawl, Miss Susan arose, walked off about fifty yards, where some of her female friends were assembled, and again seated herself. Here the presents were brought, taken possession of by some of the women and distributed among Miss Susan's female kinsfolks. At the same time that Miss Susan had seated herself on the shawl, and while the men were holding the other shawl over her head, Mr. Chubbee came forward within about twenty feet of her, spread a blanket on the ground, seated himself upon it, and quietly waited for the passive part he was to perform in giving a finality to the marriage ceremony. When Miss Susan rose from the ground, some half a dozen men, relatives of Chubbee, came forward and seated themselves in a line on his left. The male relatives of the bride now, in succession, approached the patient bridegroom, addressing him by the title of relationship created by the marriage, and then delivered a short complimentary or congratulatory

address. When he had wound up his talk to Chubbee, he then moved along the line and shook hands with each one of Chubbee's seated kinsmen, calling him by the term of relationship created by the marriage to which the kinsman responded simply by the assenting term *Mah*. For instance, A shook hands with B, and simply said, *Imochi ma* (my uncle, to which B responded with *Mah*. The Choctaw terms of relationship and their application are very intricate and perplexing to a white man. I will here give you in Choctaw the very short congratulatory address of one old Indian named George Washington to Oliver Chubbee: "*Nitak chashpo hokano Sabayi chi ahanchi li beka tok akinli kid himak a annumpa holitpa chi onochi lishke. Sayup chi ahanchi li hoke.*" "In former days I called you Subayi, but now I put a sacred name upon you. I call you Sayup." I noticed that only two or three women came forward and spoke to the bridegroom, and to him alone, for they paid no attention to the other men seated on the ground. I asked one of the men afterwards why it was that so few of the women came forward, and that they spoke to the bridegroom alone, ignoring all others, and even to the groom they only uttered the terms of relationship. "*Ohoye at takshi fehna*" ("Women are very modest") was his reply. When the men had finished their little congratulatory talk to Chubbee, the marriage was complete, and bride and bridegroom were now one. Without any further ceremony dinner was now announced, to which all hands forthwith repaired and did it full justice. As a general thing, after the feast comes the big dance, which, however, was omitted on this occasion. Generally, too, an old-fashioned Choctaw wedding takes place about sunset, after which comes the big feast and the night-long big dance. In another feature Chubbee's wedding differed from the usual old style, for, commonly, the couple sit side by side, and the wedding gifts are placed upon the head of the bride and are instantly snatched off by her kin. We all remained upon Chubbee's marriage ground until about the middle of the afternoon, when all went home. I do not think Chubbee went near his bride or even looked at her until we all got ready to go home.

The above description will serve to give you some idea of the old-fashioned Choctaw weddings yet in vogue in Mississippi. And now I close by expressing my sincere wish that my friend Chubbee and his wife may experience all possible happiness while floating in their canoe down the stream of life.

Yours very truly,

H. S. HALBERT.

Before closing this article, I must be permitted to refer to the ancient name of New Orleans, when it was selected by Bienville as the future site of the future capital of the French. Those who inhabited this country centuries before the French landed at Biloxi were neither traders nor agriculturists, except to a limited extent. Among some of the tribes war was a pastime; while others, more peaceful, rudely cultivated a few acres of ground in corn and tobacco, but they depended chiefly on game and fish for the common necessities of life. They all spoke a different language, but had united for mutual protection against the Comanches and other war-like tribes, whose depredations occasionally extended to the Mississippi. Of the various tribes in this association, the Choctaws alone exist as a nation at this day. On the arrival of the French this settlement was broken up and the inhabitants scattered, though a majority accompanied the Choctaws to Mississippi, and because so thoroughly amalgamated that they lost their identity. The Choctaws were a benignant people, and extended their protection over fugitives from any other tribe; or, as in the case of the Natchez that escaped the French from the slaughter on Black river. A few of the

Choctaws may still be found on the Bay of St. Louis, the women engaged in making baskets and gombofeele, while the men hunt, fish and play the loafer. The little community that was settled here gave a name to their principal village, quite as appropriate to-day as when it was adopted by the early inhabitants. The name is "Balbancha," which literally means "the place where there is unintelligible talk." The words of Choctaw, a language that has given names to many little creeks that empty into the Gulf of Mexico, and to towns, creeks, counties and rivers in other parts of Mississippi, are nearly all of them so corrupted that none but an educated Choctaw would decipher their meaning or give them a correct interpretation.

At the French or Poydras market a few Indian women may be seen every day, seated on the banquet, engaged in selling baskets, gombofeele and sassafras roots. The latter is a delightful substitute for tea. I prefer it to the best China, though the doctors say that it is detrimental to the blood, if freely indulged in. These women never solicit a purchaser. If you want any of her articles, lay down your money and take up your purchase. They rarely speak to a white person, or even to those of their own race. Father Roquet lived among them several years, and brought many of them into the Catholic church, but when they come to die I have no doubt but what they see in the future the spirit hunting ground, and anticipate the pleasures of the chase—the deer, bear and buffalo are waiting for them; they will have nothing to do but to enter and kill.

I might make additions to this article without prejudice to the subject, but enough has been said to show the strong points in the character of the Choctaw. I will only add, in conclusion, that they were firm in their attachments, strong in their prejudices, and slow to forget or forgive an injury. They would not voluntarily submit to any restraint which would deprive them of entire freedom of action. This sentiment pervaded all ages and conditions of life. They were sovereigns in their own right, and only yielded to their fate when they were powerless to resist the inevitable.

JAPANESE ART ON PUGET SOUND.

BY JAMES WICKERSHAM.

[CONTINUED.]

They possessed a form of ancestor worship, coming to them from China, through the Japanese. Before the doors of their great houses they erected totem poles to preserve the traditions of their ancestors, and as historical records of their heroic deeds. They made beautifully carved and painted columns emblematical of the virtues of deceased children and parents. They had the Japanese idea of a future state—an underground place for the dead—not a hall, but a general resort for the spirits of all the dead. They held slaves, like the Japanese, and like them were polygamists and believers in a shamanistic system of religion. In short, they possessed the same primitive form of civilization that the Japanese had a few hundred years ago.

As this infusion of Asiatic blood and ideas slowly but surely produced a broader mind, a higher civilization, one capable of improvement within itself, it need not be surprising that the idea is now advanced that the civilization of Mexico, of Zuni, of the Cliff-dwellers, of the Mound-builders, of Central America and Peru, is the outgrowth of this very Puget Sound life, possibly suddenly assisted by a larger influx of wrecked vessels, or a migration *via* Behring's Straits and the Aleutian islands.

Humboldt fixed Aztlan, the ancient Aztec starting point, north of 42° north latitude, or north of the southern boundary of Oregon, while Prescott, the historian of the Spanish conquest, agrees that the Aztecs came from the northwest coast. From a similarity of languages, of relics and works of art, I believe that Aztlan was on Puget Sound, in the State of Washington. That here grew, flourished and strengthened that strange yet Roman civilization that blossomed and then decayed in the valley of Mexico! The great Algonquin race of Indians, extending from Montana to Maine, including the most highly cultivated tribes of the Ohio region, preserved a record of their migration from the Columbia basin, from Puget Sound, from Fir land! While the Mandans held an annual celebration in honor of their ancestors that crossed the great ocean in a boat, and thence came from the region of the Columbia to their old home on the upper Mississippi river. In short, the theory is now announced, that as this constant addition of new blood from the semi-civilized races of Eastern Asia, raised on the north-west coast of America new tribes of like civilization; that they, like swarms of bees, went forth to seek new meadows—one to the Mississippi and Ohio region, and others to the pueblos of Ari-

zona and the plains of Mexico. The effect of all this is quite apparent in the education of the Puget Sound tribes. The Nusqually numeration enabled these people to count any number ever needed or used by them. Their system was exactly like that of the Chinese and Japanese, and was based upon the decimal plan. A comparative view is given to show the similarity:

ENGLISH	CHINESE.	JAPANESE.	NUSQUALLY.
One.....	It (Ei).....	Ichi.....	Ducho.
Two.....	Erh (Er).....	Ni.....	Sälle.
Three.....	San (San).....	San.....	Tlewch.
Four.....	Sz (Su).....	Shi.....	Bos.
Five.....	Wu (Woo).....	Go.....	Tsläts.
Six.....	Lin (Leo).....	Roku.....	Tse-lä-che.
Seven.....	Chi (Che).....	Shchi.....	Tsoaks.
Eight.....	Pa (Pä).....	Hachi.....	Tkä-che.
Nine.....	Chin (Chen).....	Ku.....	Whül.
Ten.....	Sh (Shui).....	Jin.....	Pä-duts.
Eleven.....	Sh-i.....	Jin-ichi.....	Paduts-yuchq-ducho.
Twelve.....	Sh-erh.....	Jin-ni.....	Paduts-yuchq-sälle.
Thirteen.....	Sh-san.....	Jin-san.....	Paduts-yuchq-tlewch.
Fourteen.....	Sh-sz.....	Jin-shi.....	Paduts-yuchq-bos.
Fifteen.....	Sh-wu.....	Jin-go.....	Paduts-yuchq-tsläts.
Sixteen.....	Sh-lin.....	Jin-roku.....	Paduts-yuchq-tseläche.
Seventeen.....	Sh-chi.....	Jin-shchi.....	Paduts-yuchq-tsoaks.
Eighteen.....	Sh-pa.....	Jin-hachi.....	Paduts-yuchq-tkäche.
Nineteen.....	Sh-chin.....	Jin-ku.....	Paduts-yuchq-whül.
Twenty.....	Erh-sh.....	Ni-jin.....	Säl-lä-che.
Twenty-one.....	Erh-sh-i.....	Ni-jin-ichi.....	Säl-läche-yuchq-ducho.
Twenty-two.....	Erh-sh-erh.....	Ni-jin-ni.....	Säl-läche-yuchq-sälle.
Twenty-three.....	Erh-sh-san.....	Ni-jin-san.....	Säl-läche-yuchq-tlewch.
Twenty-four.....	Erh-sh-sz.....	Ni-jin-shi.....	Säl-läche-yuchq-bos.
Twenty-five.....	Erh-sh-wu.....	Ni-jin-go.....	Säl-läche-yuchq-tsläts.
Twenty-six.....	Erh-sh-lin.....	Ni-jin-roku.....	Säl-läche-yuchq-tseläche.
Twenty-seven.....	Erh-sh-chi.....	Ni-jin-shchi.....	Säl-läche-yuchq-tsoaks.
Twenty-eight.....	Erh-sh-pa.....	Ni-jin-hachi.....	Säl-läche-yuchq-tkäche.
Twenty-nine.....	Erh-sh-chin.....	Ni-jin-ku.....	Säl-läche-yuchq-whül.
Thirty.....	San-sh.....	San-jin.....	Stä-whuche.
Forty.....	Sz-sh.....	Shi-jin.....	Sbos-suche.
Fifty.....	Wu-sh.....	Go-jin.....	Tsläts-suche.
Sixty.....	Lin-sh.....	Roku-jin.....	Tseläche-uche.
Seventy.....	Chi-sh.....	Shchi-jin.....	Tsoaks-uche.
Eighty.....	Pa-sh.....	Hachi-jin.....	Tkäche-uche.
Ninety.....	Chin-sh.....	Ku-jin.....	Swhül-äche.
One hundred.....	I-pai.....	Ippiaku.....	Ducho-subquatche.
Two hundred.....	Erh-pai.....	Ni-hyaku.....	Sälle-subquatche.
Three hundred.....	San-pai.....	San-hyaku.....	Tlewch-subquatche.
Four hundred.....	Sz-pai.....	Shi-hyaku.....	Bos-subquatche.
Five hundred.....	Wu-pai.....	Go-hyaku.....	Tsläts-subquatche.
Six hundred.....	Lin-pai.....	Roku-hyaku.....	Tseläche-subquatche.
Seven hundred.....	Chi-pai.....	Shchi-hyaku.....	Tsoaks-subquatche.
Eight hundred.....	Pa-pai.....	Hachi-hyaku.....	Tkäche-subquatche.
Nine hundred.....	Chin-pai.....	Ku-hyaku.....	Whül-subquatche.
One thousand.....	I chien.....	Sen.....	Paduts-subquatche.

Of these three Mongolian systems of numeration the Nusqually is the nearest perfection, if we accept the English as perfect. For "eleven" the Chinese and Japanese say "ten-one,"

with the conjunction understood, while the Indians say "ten *and* one." For "twenty" the Chinese and Japanese have not got past saying "two-tens," while the Indian has coined a new word to express that number, having as a root the word for "two"—"sál-láché." This is true of all the combinations of ten up to one hundred. From that number to 1,000 the combinations of 100 are the same in the three languages, except for the last—1,000—and for this the Indian says "ten hundred," instead of having, as do the Chinese and Japanese, a word for "thousand."

The Nusqually system of numeration is a fair sample of the civilization of the northwest coast tribes. The Nusqually language is rich in words to express the finer shades of thought. It is a cultivated language, and shows quite plainly that at some point there has been a contact with a much higher race, possibly in Japan, possibly in Aztlan. They have different words for a small bush, a sapling, a half-grown tree, and the monarch of the forest. No shrub, grass, or thing of plant life escapes them, and practically, as a people, they are much finer botanists than we are. Every bay, cape, camping place and fishing ground has its name. Every bird and animal is known and named. Their practical information in the line of natural history equals that of a scientist. They have a grammar—not written, but systematic, and the Nusqually language is equal to that of the Aztec—equal to the highest of the so-called civilized languages of America—almost equal to the Chinese, which has been in process of polish for 3,000 years or more.

Then, too, the Nusqually was a trader, a man of financial views. Their system of government was based upon this idea—the possessor of wealth, of canoes, houses, totem posts, slaves, and personal property, was a man of influence—the chief. They received buffalo robes and horns from the Yellowstone plains, obsidian from the Yellowstone park, red pipe stone from Minnesota, canoes from Haidah land, copper from Alaska, and jade from Asia. He sent inland dried fish and other commodities, and a yearly exchange took place with other tribes.

That the Puget Sound Indian is made of finer material than a stupid savage is apparent from the ability he possesses as a linguist. Nearly every Indian on Puget Sound can talk from three to a half dozen different dialects or languages. One of my Indian friends talks and writes English; he also talks Nusqually, Chehalis, Klicketal, Quinault and Skokomish, and I do not know how many more Indian languages. Another talks and writes English, and talks Nusqually, Austrian, Cowichan, Chinook, and pretty good Spanish. He acted as interpreter in Judge Stallcup's court the other day—he translated in the Slavonian tongue, and was pronounced the most prompt and ready interpreter of that difficult tongue that had yet been in that court. I do not believe there is an Indian on Puget Sound that

cannot talk three different languages. No such a race can be called stupid or ignorant.

As boatmen and fishermen they can not be excelled. There is no finer boat built than the Haidah canoe—the model for the northwest coast. Its lines are perfect, and it is made so large, strong, sea-worthy, and yet light, that they fearlessly go far into the open ocean to attack the whale. I have seen canoes from Alaska at the wharves in Tacoma. As fishermen they excel all races; their fishing year is all that is needed, and they had located the halibut and seal fisheries and frequented them from ancient times. They have names for each fish and each kind of animal life in the waters. In short, the Nusqually race was far above that of ignorant savages; they were a stationary people, capable of self-support, and would eventually probably have been the base of a migrating tribe of semi-civilized people—but the white man's civilization came, and they melted before it like frost before the morning sun.

The Nusqually people never equaled the Haidahs in stone carving, but I have seen nothing from the Haidahs to excel the horn bowls of Puget Sound for artistic form and for practical utility. The Nusqually, like the Apache and Navajo, was a weaver, and they yet make fine bags, head bands for baskets and other light weaving. Formerly they made fine large woolen blankets of mountain goat and dogs' wool. They used the same wheel for spinning wool that their southern Athapaskan brother did, and also the same identical loom for weaving. The blankets have the same intricate patterns and colors also, and in every respect the work seems as finished and artistic as the old Apache, before they used American wools.

Their basket work is not only artistic, but thoroughly practical. Baskets of such texture and firmness were made by the Nusquallies that they cooked food in them—boiled venison, fish and towl, cooked roots and boiled water. The baskets are of all shapes and sizes, and of many colors and designs, and for every purpose from boiling water to carrying wood. The baskets of Nusqually equal the combined efforts of the Zunis, Navajo and Pimas. Nothing like them can be made by the white man. They made fine feather-work clothing also, like the ancient Mexicans; they made of moccasins of tanned skins, and painted their tanned skin clothes with many colors and designs. They made all kinds of matting, like the Japanese, for carpets, beds, hangings and coverlets; they carved fine pipes of stone; worked jadeite, one of the hardest minerals; and made arrows so perfect, and out of such beautiful and rare materials, that many seem to have been intended for use as jewelry. They carved stone statuary of remarkable taste; one specimen found on Puget Sound weighed 600 pounds, while many smaller and much better specimens have been found on the sound and on Columbia River. Some of these pieces are really artistic, and

are equal to the effort of even a civilized man. The stone carving of the Haidah is not equalled in that line in aboriginal America.

The Puget Sound Indians—the northwest coast tribes—were carvers in stone, bone, ivory, horn and wood; they were fine boat-builders and fishermen; they lived in permanent communal houses of solidity, warmth and taste; they occupied a fortified and palisaded fort in time of danger, and they had a civilization very little inferior to the old Japanese. They painted, carved, spun and wove, and had the Japanese idea of a future state. Their language was strong and rich. It shows unmistakable proofs of contact with a higher civilization; its polish came from the Chinese, through the Japanese. Before the white man came with his over-mastering vices they were prosperous, happy and on the road to a typical and higher improvement. If treated as were the Japanese or Sandwich islanders, they were as capable of absorbing as much of the English civilization as the Hawaiians, probably as much as the Japanese; but treated as “wards of the government,” they are fading away and will soon be lost in the mists of the past.

Of this type was Seattle, the flathead; of the type that built the mounds of the Mississippi, the *tlacallis* of Mexico, and presided, a flathead monarch, over the ancient government of Peru, not as finished as they, but on the road to that height. He was too strong, too wise and too well educated to be pictured in Philadelphia as a badge of ignorance, and I respectfully protest against such a use of his broad, Mongolian face.

CRAFT SYMBOLS AND RELIGIOUS EMBLEMS.

BY STEPHEN D. PEET.

The enquiry whether there were any craft symbols in America during prehistoric times is now before us, having been suggested by the study of the various "winged creatures" and "dancing figures" as well as by the ordinary relics and ornaments. The word "craft symbol" has, to be sure, a triple use, each use of it being significant. The term in one sense indicates that there were various employments which marked themselves upon the relics, thus making a differentiation in them according to employment; another sense indicating that there were offices and positions which made these very relics the symbols of power and authority; still another sense shows that there were certain religious organizations which devoted the same relics to sacred purposes, and made them emblematic of a still higher thought and meaning. As in modern society, the various secret orders and associations, especially that of Free Masonry, will take the tools which were used by a trade or craft and make them significant of social and moral qualities and call them craft symbols, so in primitive and prehistoric society, the very things which were used in war, in hunting, and in domestic life, were taken and made significant of the honors which belong to the warrior, hunter, or priestly class; not only this, they were also taken and raised to a higher level and became badges of their divinities and symbols of their religion.

This is not saying that there was actually a division of labor or any separation of primitive society into craft guilds or labor organizations, but it is saying that there were conventional symbols which were significant of certain honors, the sacredness of the symbols consisting in the fact that they were often transferred to the divinities which were worshiped, thus making them not only craft symbols, but also religious emblems.

The subject is interesting, for it shows how strong and how prevalent was the religious sentiment, for the very commonest weapons, such as arrow-heads, spears, knives and bows; the commonest articles of dress, such as moccasins, leggings, belts, headgear, and the ornaments and decorations on pottery and basket-work, were turned by it not only into the symbols of office, but also into the emblems of divinity. In treating these emblems, then, we shall take the very relics which have come down to us from prehistoric times, and shall show that many of these came by a gradual, but very natural process, to be devoted

to some official religious purpose and significant of some hidden thought or custom, the association of these various relics with the various religious emblems and ceremonies proving that they had become the conventional symbols which were used as ensigns of the various classes—either civil, military or religious—into which native society was divided. These conventional symbols were not all alike, for some of them had more mythologic significance than others, yet they all seem to have been raised above their common use to a level where they were more or less sacred.

Illustrations of the subject are numerous. They can be drawn both from the practices of the living and the relics found with the dead, for the same sentiment which would give a mythologic



Fig. 1. — Knife-bladed Head-dress.

significance to an object carried or worn in a dance or feast or any other religious ceremony was quite likely to preserve that object and make it perpetuate the same sacred thought or meaning. Let it be noticed here that there are many mythologic figures preserved by the Indians, Mound-builders, Cliff-dwellers, Pueblos, civilized races which have connected with them as their equipments and personal ornaments various articles which were

in common use; but there were other articles, such as masks, feather head-dresses, decapitated heads, sacred robes and other paraphernalia which were uncommon, the difference between the secular and sacred being as perceptible in the prehistoric as in the historic races. We propose to take these figures and study first the articles which were undoubtedly symbols and afterwards in others which were less symbolic in character and see if they were not all regarded as in a measure sacred and so worthy to be called "craft symbols."

We begin with the masks and wings seen on these figures and ask whether they were not ornaments which were attached to the person of the priests or medicine men, resembling in this respect the animal heads, horns and skin, which were worn by the natives in their sacred dances, also resembling the raven divinity of the Haida Indians. This raven was not exactly an ordinary bird, for he had many human attributes and the power

of transforming himself into anything. His coat of feathers could be taken off or put on at will, like a garment. The bird is a very prominent symbol among the tribes of the northwest coast. There is a bird whose size darkens the heavens, whose body is the thunder-cloud, the flapping of whose wing causes the thunder, and who sends out of its mouth bolts of fire to kill the whale for its food. It lives in the highest mountains, has a head as sharp as a knife, and a red tongue which makes the fire. The lightning fish is about his waist. When he sees the whale he darts the lightning flash into its body. Many of the north-western Indians have a performance in honor of this thunder-bird. They have legends that it was the creator of man. Mount Edgecombe, near Sitka, is the home of this thunder-bird. The Tinneh Indians say that the world first existed as an ocean. The bird flew down and touched the water; whereupon the earth arose. The belief in the thunder-bird extends from the mouth of the Columbia, in Oregon, to Sitka, Alaska, and from Behring



Fig. 2.—Winged Figures, Medicine Bag and Other Symbols of the Ojibwas.

Straits to the western shore of Hudson's Bay—two thousand miles. The legend crosses the Rocky mountains and is found among the Dakotas. Here the dwelling is on the summit of a beautiful mound that opens to the four cardinal points, each with a doorway. The Cherokees had a legend of the mythic hawk, though this differs from the thunder-bird. It is probable that the winged figures on the gorgets represented this mythic hawk. Another winged figure is presented by the Mida songs of the Ojibwas. These represent the Great Manitou in his wigwam or tent, the arch of the sky being the covering of the tent. The song is interesting, for it represents not only the winged figure, but the sacred medicine bag and a peculiar implement which resembles that held in the hands of the dancing figures from Georgia, which may be regarded either as a rattle or a battle-ax, though the same kind of an instrument may be seen in the hands of the Mahkey God depicted in the Dresden Codex.*

It has been maintained by Dr. Cyrus Thomas that the custom of representing human images with wings issuing from the shoulders is European or Asiatic, and must have been introduced into this country by the Spanish. It is true that angels and

*See plate of Dresden Codex.

cherubim are in the scriptures represented with wings on the shoulders, and so were the priests and chief divinities of the Assyrians and Babylonians. The Phœnicians represented their warriors or their divinities under the images of animals standing erect, with wings issuing from the shoulders. Winged figures

were also common in America. There was a myth among the Abanakis that wings and a mask were given to one of the culture heroes or divinities, which he could put on or off as he chose, and it may be that these gorgets represented this myth. The priesthood of the bow among the Pueblos was a winged figure. What is more, the feathers of the wings were in the shape of knife blades or spear heads, but they were symbols of the

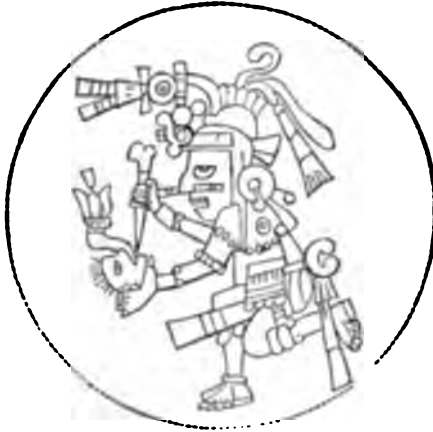


Fig. 3.—Sacrificial Scene.

nature powers. The head of the Mexican divinity was surrounded by similar knife-bladed feathers as a symbol of his majesty, making a sort of nimbus of feathers around the conical miter. Fig. 1. Winged figures were also common in Central America. M. Habel has described many of these. One is a bird carrying a human body in his beak. The body hangs below the beak, and has serpents trailing from its head. There is a flaming sun upon the breast of the bird. The bird's legs are in the shape of human arms, the fingers in the shape of claws, a disk in the claws, a collar about the neck. Another bird is also represented as bearing a human skull in its beak, human arms and serpents' heads trailing from the skull. These were evidently the symbols of the nature powers or the sun, but they show how the wings, beaks, human heads and arms were mingled together as symbols.



Fig. 2.—Fighting Figures.

There is a figure of Montezuma near the sacred spring in Arizona which embodies a myth. This figure has the claws of a bird, arms in the shape of wings, staffs in either hand, by the side is an upturned tree with the sun hanging to the roots.* See Fig. 5. Arrow-heads and bows were also used as symbols of the divinities of the hunters, at least they were so used by the Pueblos and Cliff-dwellers. This singular people had animals for their gods, exactly as the hunters of the east did, but they exalted them and made them sky divinities. Here, then, we have in the different parts of the country those mythologic creatures consisting of birds, animals and human

beings with wings and masks attached to them, showing that to the priestly class all of these objects were sacred. The same was true of the animal figures and the fetiches.

Mr. Frank Cushing has spoken of this and has shown that these fetiches were tribal possessions and that they embodied the sacred myths of the tribe. The holder of the path of life, the sun-father, at the creation endowed his children with his own power, and gave them the rainbow for a bow and the lightning for an arrow, a shield like unto his own, a flint knife, the magic war knife. These children cut the face of the earth with their



Fig. 5.—Mythical Montezuma†

knife and were borne down upon their shield into the cavern in which all men dwell. They built a ladder to the roof of the first cave and led men forth into the second cave, which was larger and not quite so dark, into the cave where was twilight, then through the opening to the surface. Here there was an island in the midst of a great water, for there had been a great flood, and there were strange beings and monsters of the deep. They placed their magic shield upon the wet earth, and laid upon it the rainbow, and across it the arrows of lightning. The

*There is a myth connected with this upturned tree. Montezuma took a tall tree and planted it in an inverted position, predicting that a foreign race should rule over his people and there would be no rain. He commanded the people to watch the sacred fire till the tree should fall and he should return to his kingdom. This is a modern myth, but there are etchings on the same rocks at Arch Spring in Arizona of figures with wings and masks which are evidently ancient. See report of Indian Tribes, Washington, D. C., Lieut. Whipple, correspondence, page 39.

†A sandstone tablet has been found on the surface near Castellan Springs Tenn., with a winged figure inscribed on it similar to those from the Etowah mounds. It is to be noticed here that ornaments of copper resembling these in the head-dresses of the winged figures, suggesting that the person buried in the mounds may have dressed in the very same garb which is represented on the inscribed figure. See W. E. Myer in *Archæologist* for January, 1891.

surface of the earth was hardened. They struck the animals with their lightning and changed them to stone, and these are now their fetiches. These animals are not only guardians of the six regions of the celestial geography but are mediators between men and the divinity, and by means of the prayer plumes they make known the wishes of men. Grand sacrifices of painted prayer sticks are made by the medicine societies at the full moon, but the worship reaches its highest significance when the fetiches are regarded as the gods of the chase or hunt, the game gods or prey gods. On this account arrow points of flint or chalcedony are bound with white shells and coral beads, with cotton cords over the heart, the color and material of the arrow-heads and beads, as well as that of the fetich, being significant. The position of the arrow-head and knife is also significant. On the back it gave power over an enemy; under the feet it hid the tracks of the wearer. The color of the animal was significant of the part of the sky.

Another illustration is found in the fighting figures which may



Fig. 6.—Flint Knife from Stone Grave.

be seen on the inscribed gorgets from the mounds of Tennessee. They show that the military class had their emblems as well as the priestly. These figures are worthy of study, for they resemble the winged figures on the copper plates in the Etowah mounds in many respects. They have the same kind of wings issuing from the shoulders, the same kind of bands about the legs and arms, the same draper work and girdle about the body, the same kind of necklace and ear-ring, and probably had the same kind of mask, a mask in the shape of a bird's beak, for they have the birds' claws as feet and birds' tails as drapery. They have weapons in the hands, one in the shape of a knife and another in the shape of a sickle, and are contending with one another. Their attitude is very expressive, for the foot is firmly planted on the ground, the knee is bent forward, the right foot is thrown gracefully back as if in the attitude of fighting, while the other figures have both legs partially drawn up as if in the attitude of dancing. The attitudes of the hands are also peculiar. In the case of the dancers one hand is thrown up and has a mace or battle axe in it, the other hand is thrown down and carries a decapitated head, while in the fighting figures one hand is in the attitude of striking a blow in the face, the other in the act of brandishing a long-bladed knife.

It is to be noticed here that flint knives and "sickles" resembling those in the hands of the fighting figures have been found in the stone graves, showing that either the divinities really were equipped with the same weapons as the human warriors or that the warriors themselves personated the mythical divinities in their dress. See Figs. 6 and 7.

Divinities with wings prevailed among the Pueblos. One was the god of the scalp-taking ceremonials, the great white bear; another, the mountain lion; the third is the knife feathered monster. His dress consists of the terraced cap, symbolic of the dwelling place among the clouds; his weapons are the great flint knife of war, the bow of the skies, the arrow of lightning and his guardians or fellow warriors are the great mountain lion of the north and upper regions. Here then we have the craft symbols of the hunters and the warriors, such as the knife, spear, bow and arrow, the shield, scalping knife, the beads, turquoises and all the personal ornaments turned into symbols, placed upon the fetiches and raised to the level of the sky, their original forms being almost lost in their symbolic shape.



Fig. 7.—Sickles from the Stone Graves.

Winged figures were also retained through the next stage of development and appeared among the civilized races. Here the wings and masks, the disk and bow may be recognized again, but they are in a different shape and with a different combination, though they are still more significant as religious symbols. They were placed over the doorways to the sacred shrines or temples; while within the shrine were tablets covered with the symbols of the sun, of the sky, of the cardinal points, the nature powers, in the shape of crosses, birds, faces, and various conventional signs, every figure in the tablet being significant; the whole tablet containing in itself the record of the religious cult.

The resemblance of these winged disks over the temples or shrines to the winged circles which are so often seen over the entrance to the sacred temples in Egypt is very striking, but it does not prove that there was any connection; for the wings were plainly symbolic of the clouds and the disk of the sun, and grew up into symbols of the nature powers very naturally, just as the winged figures of the Greeks and Assyrians grew into symbols of the kingly power, and yet were at the same time symbols of

the rain clouds, for Jupiter Pluvius was represented by the human head and the wings with trailing or drooping feathers.

This growth of symbolism out from the commonest articles of use is one of the most interesting facts in archæology. Take the leaf-shaped implements, which are found in such great numbers in the ground in nests, as an illustration. These were not mere rejects from a quarry, but were probably the treasures of the arrow-maker, stored beneath the ground for the sake of the convenience, and in that respect would be taken or regarded as the craft symbols of the arrow-maker. But it is singular that these same relics are often found in the mounds so associated with other relics as to prove that they were actually symbols of a religious practice or cultus. Leaf-shaped implements were found in the Hopewell mounds, eight thousand in number, their position showing that they were designed as a sacred deposit, for in the same mound there were skeletons which were covered with various symbols of office, one of them being the skeleton



Fig. 8.—Leaf-shaped Flint Implements from the Hopewell Mounds.

of a chief, clothed in copper, with horns upon the head and many other symbols on his body. In another case an altar was made of leaf-shaped implements arranged in tiers; on the altar was a body which had been arrayed in its insignia of office—copper bands upon the head and various weapons near the hand. The body had been partially cremated upon the altar. Every part of the altar and every article about the body was more or less symbolic.*

Another illustration has been drawn from the plastering trowels. Gen. Gates P. Thruston, in his book on the antiquities of Tennessee, has referred to the trowels which were taken out of the mounds and the stone graves of Tennessee, says that they prove that plastering was a trade among the Mound-builders. There is, in the same book, the picture of an idol with a trowel on its head. This trowel proves that the tools which were used in making pottery, and perhaps in decorating the inside of houses, became sacred and was so placed upon the head of the household divinities, and was one of the symbols which arose in con-

*See *Prehistoric Mounds of Ohio*, Description of Excavation on Sandy River, by Dr. Sawyer.

nection with the system of idolatry. There are idols in the collection gathered from Pantaleon, Guatemala, some of which have little jaunty caps upon the heads; others have these same caps placed at the side. These may have been the straw hats which were worn by the natives, though they resemble trowels enough to start the inquiry.*

Whatever may be said about these caps, there is no doubt but that the domestic vessels which were made out of pottery, such as bottles, jugs, vases, were sometimes used as religious symbols. It was very natural for the women to mold these into the shape of gourds, animal figures, fishes, frogs, and human images, and decorate them fancifully, but the decorations on pottery soon became symbolic, and so we have images with their faces turned toward the sky, holding vases full of incense.† That which was suggestive of the craft of pottery-making becomes a symbol of sun worship, and not only this, but in some cases, as, for instance, in the pottery of the Cliff-dwellers and the so-called civilized races, the symbols on the pottery are even suggestive of spiritual thoughts; the idea of the soul and spirit being conveyed by various figures, which were suggestive of the generative organs, the attributes of the divinity being conveyed by circles, disks, and other symbols.

Let us turn now to the symbolic use of the knife. This knife is in common use among the Eskimos to-day, and is also used by the hunter Indians. The transmission of this knife into a symbol took place far to the south, in Mexico, where it became a national emblem. Here copper knives were used as coins and were also used as symbols of divinity, as well as a clan symbol. The copper knife with the blade turned upward was, in fact, the national symbol of the Aztecs. The T shaped pieces of copper are mentioned by early writers as native coins, and articles of tribute. There are bronzed knives in the same shape from Peru, in the Peabody Museum. It is uncertain as to what use was made of these knives. Some call them hoes, others agricultural implements, others scrapers.‡ Dr. Valentini has shown that these were placed on the head of the idols as a symbol of the nature powers.

We conjecture that these knives, which in their common use are still retained by the rude fishermen of the north, were used by the Mexicans when they were in a rude state; that as they advanced in intelligence, in wealth and culture, religion seized upon this very common utensil and made it a symbol. If the

*See article on Ethnographic Religions, Fig. 6, p. 320.

†This is illustrated by many articles of the north-west coast, pottery was not known here but there are many wooden dishes which are carved with legendary carvings representing seals, beavers, sea gulls, sparrow hawks, crows, and human faces all of them suggestive of their divinities.

‡See copper knives, Professor Putnam, Proceedings of Antiquarian Society, Vol. II, page 236, fifteenth report Peabody Museum, page 143; Dr. Valentini, in Proceedings of Antiquarian Society.

coins which were in common use were changed into symbols it will not be the only case where coins have retained the craft symbol and made them significant of value, for the very word pecuniary is taken from "pecos," the flock of sheep which was bought in exchange for the coin.

There is a figure in the Fejevary Codex which represents a king or priest in the act of sacrifice, having a knife in one hand and a head in the other. This should be compared with the idol which is seen placed upon a pedestal. See Figs. 3 and 9.



Fig. 9. — Mexican Idol.

This idol has in its hands a knife, probably of copper. It has on its head the round cap, but in the ears are large rings in the shape of disks, which so resemble those that are found in the mounds that we are constrained to say that they were also symbols. There are also idols in Pantaleon, Gautemala, which have similar ear-rings, though the ears in this case seem to be drawn down unnaturally so as to become almost a deformity. The ear-rings, however, are the same shape as the spool ornaments. There are also ear-rings in the head which is surrounded by the knife-bladed feathers resembling these, also in the idol which represents Quetzatlcóatl, now in the Trocadero museum at Paris.* This idol has the same conical shaped hat upon its head, but the knife-bladed feathers give place to a head-dress which is elaborate and more symbolic. Here was undoubtedly the same person represented in both idols. It is noticeable, however, that this idol in the Trocadero museum has exactly the same attitude that

Buddha is always represented as assuming, showing that there must have been contact between Asia and America.

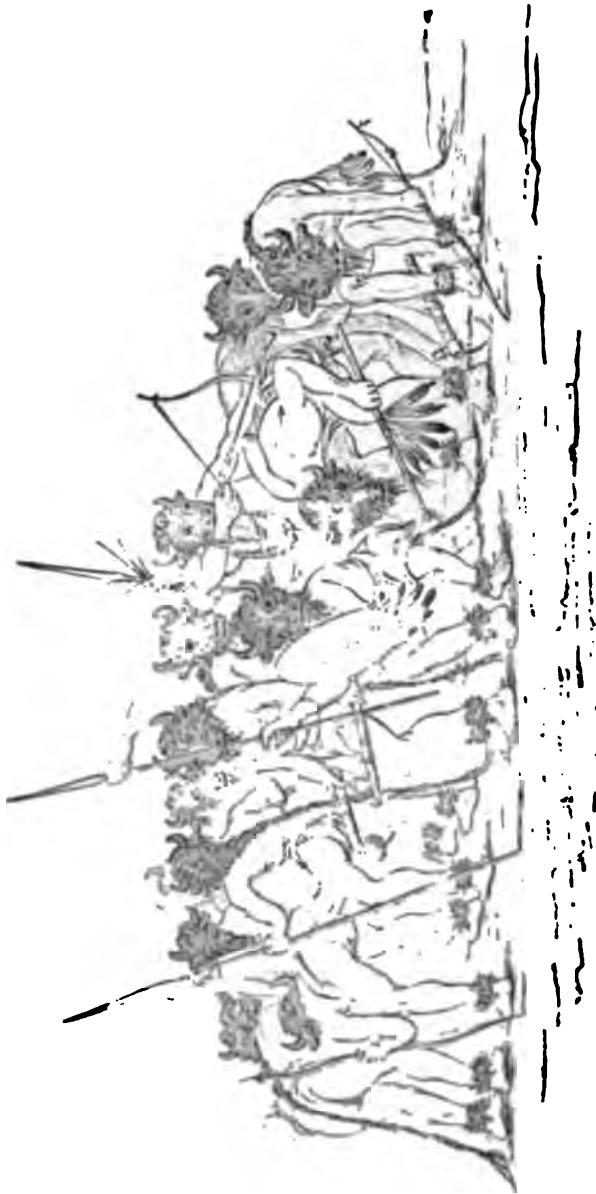
The pipe is another article which was in common use, but which, by a gradual transformation, changed to a clan symbol and became significant of many religious thoughts and sentiments. The symbolic use of the pipe has not been sufficiently dwelt upon.

A habit that was perhaps as common in prehistoric times as in the present, was often seized upon by religion and made to signify more sacred things. In fact, the smoking of the pipe of peace was the chief feature in the treaties or leagues which were

* There is in the Trocadero Museum a vase which was used in sacrifices. In front of the vase is a head, which represents the priests as covered with a human skin. There is on the head one of these disks, the ears resembling triangles, and in the ears massive disks, some what resembling these ear ornaments. *Nadavides: Prehistoric America*, p. 50.



MEDICINE BAGS, ARROWS AND SPEARS.



THE BUFFALO DANCE AMONG THE MANDANS.

formed between the tribes. It was also an important ceremony in all the national councils. As a result, the pipe was always carried in the hand of the chiefs and medicine men in their sacred dances and in their war feasts. Among the Dakotahs the pipe was used as a tribal symbol, and keepers of the sacred pipes were appointed by the tribe and had separate tents for their occupancy.* Pipes in the shape of tubes were sacred symbols. Stone tubes, bearing a general resemblance have been described by Schoolcraft, Squier and Davis, Haywood, C. C. Jones. They have been called stone trumpets, "telescopic devices," cupping implements used for sucking out the disease. They were, however, filled with tobacco and the smoke was blown through them by the medicine men. Now these stone tubes, whatever their use, were also used by the priests in Mexico as symbols of their office. There are many such tubes represented on the sculptured figures in Mexico and Central America. In these figures the priest is represented as blowing through the tubes. The smoke, however, in this case becomes a symbol of the wind, the life and the soul, and so the tube is very significant.

There were different kinds of pipes, some of which were symbolic, but the majority were merely personal possessions. Those in New York are generally made of pottery, have a long stem with a small bowl at the end of the stem. Those in Ohio are made of stone and generally have the curved base, with the bowl in the center of the base, the bowl being often made in the shape of an animal. The same kind of pipe has been found at Davenport, Iowa, and in various parts of Illinois. The pipes found in Tennessee among the stone graves are generally made with a straight tube with a duck or some other animal. Another pipe is in the shape of a tube with a flat disk on the top. The tube is sometimes round and sometimes with square angles. Gen. Gates P. Thurston has described several pipes from Tennessee and Alabama. One of these is in the shape of a bird with wings

*That the pipe as well as the battle-axe was carried into the sacred dances may be seen from Catlin's painting of the Bull Dance or Buffalo Dance. Here the dancers are covered with masks in the shape of buffalo heads, the tail of the buffalo hanging down the back and trailing on the ground. The dancers assume the various attitudes of the buffalo, but nevertheless carry their pipes and battle-axes and other weapons in their hands. The sacred pipe or calumet was different from these ordinary pipes. See the picture of Great Bear, the medicine man of the Mandans.

These sacred pipes belonged to the "Inkassahgens." There was a buffalo skull which was equivalent to a sacred pipe. The bear people carried the sacred bag of a bear's skin; the black bird people, the sacred bag of bird's skins; so these received no pipe. The oak people occupied the sacred war tent and carried the sacred war pipe; they also carried the sacred bagkin which was the clam shell which was the sign of the pipe, and also the bag which was filled with tobacco. The "black-shoulder" gens carried the calumet or peace pipe. The hanging gens carried the sacred pole and had two sacred tents, one of which contained the pole of ash-wood and the other contained the skin of a white buffalo cow. There are two calumets or peace pipes, on one the eagle feathers are white, and the pipe stem blue, on the other the eagle feathers are spotted black and white. The tents containing the pole and the two containing the sacred pipes are always placed by their sides in the center of the encampment. The tents of each gens in a circle around the encampment, that of the oak gens on one side of the entrance and that of the Inkassah gens on the other side of the entrance. When the first thunder is heard in the spring the bear people carry the sacred bag to the oak gens, the sacred pipe is taken out and smoked to the sky and the thunder god addressed. See "Myths and Symbols," Plate IV, p. 125, Chapter V.

spread. See Fig. 10. Another is in the shape of a panther with mouth open, the sides decorated with peculiar loops. Another is in the shape of a human image kneeling. This image has a peculiar cap on the head and ear-rings at the side of the head, and the sun symbol on the top of the head, carved above the tube, making the bowl for the pipe. The pipes of the Gulf States were different from those of Tennessee, Ohio, or New York, or Iowa. They were generally made to be used with a reed stem and were block shaped, the bowl on the top of the block and the mouthpiece at the side. The best pipes were made into human images, some of them in the attitude of adoring the sun. A modified form of this pipe is the one which has a flaring mouthpiece as well as a flaring bowl. This kind of pipe was quite widely distributed, as it was found in the sepulchral chambers in Tennessee, among the pottery makers of Missouri, as well as among the pyramid-builders of the Gulf States. Nadail-



Fig. 10.—Bird Pipe

lac has represented an earthenware pipe from Missouri with a portrait on the bowl. Mr. C. C. Jones has described pipes from Georgia, but without the portraits.

We have in the pipes a series which illustrates first, the grade of progress, second, the religious cult, whether of animal worship or sun worship, third, the clan symbol; fourth, the human portrait.

The ax is another article which was used for common purposes and became symbolic. There are axes in various parts of the world which have symbolic figures upon the blade, the figures themselves showing where they are found; those on the northwest coast having symbols peculiar to that region; those from the Cliff dwellers, those from the Mound-builders and those from the Aztecs having symbols on them characteristic of the different nationalities. We present a series of axes which are from Assyria. See Fig. 11. The ax in modern times is generally a sign of woodcraft, but in ancient times was a symbol of authority. Among the aborigines of America it was a symbol of any or all the classes, hunters, warriors, agriculturists, mountaineers and priestly sacrificers. The symbolic use of the ax in modern times is well known and having become familiar from sight we need not dwell upon it, as it appears in many of the secret societies and labor organizations.

It is noticeable that the ax, or rather the common celt, is carried in the hands of the priest at the time of sacrifice, both in Egypt, Assyria and in America; and from these sacrificial scenes we learn that it had everywhere about the same shape. It is not a knife, but a wedge-shaped ax or celt, held in the hand without a groove. There is a bas-relief seen by M. Habel in Santa Lucia which is supposed to represent a human sacrifice. On this bas relief there is a human figure with a crab upon its head, serpents twined about its body, the hair and head-dress falling nearly to its feet. In one hand there is a human head, in the other the sacrificial ax. Below this figure are two others, each of them carrying a human head. One of these represents death, for there is a skull on the body; the other seems to have a crowned head.

There is a double-bladed ax which is a common symbol in America. The origin of this symbol is unknown. One form of it is that which we call the mace or butterfly ornament. Fig. 12. It is made of striped slate and has a hole perforated through the center. It was probably worn by warriors as a badge of office. It is supposed by some to be a sun-symbol, for badges in the

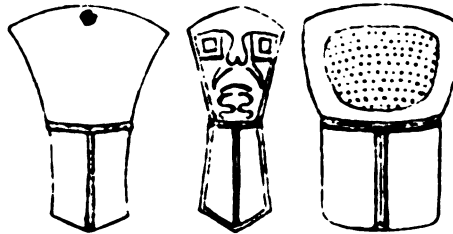


Fig. 11.—Symbolic Axes.

shape of single and double axes are found on the heads of the winged figures taken from the mounds. These have been called Aztec symbols, but they are no more Aztec than they are Mound-builder, for the same shaped banner stones are found in the mounds.*

§ The ax as a badge of authority originated early in savagery, but survives modern civilization. In nearly all cases the staff has at its head some symbol which can be traced back to a simple tool, either an ax, a spear, knife or lance. Even the Roman staffs of office were decorated with axes carried in the hands of lictors as emblems of their office. The double bladed ax was a sign of power in the hands of Jupiter, the god of the Greeks. It was worn on the helmet of the Aztec women, and seems to have been also a symbol of divinity among the Mound-builders, for it may be recognized on many of the winged figures and mythologic creatures depicted by them.†

*See my book on "Mound-builders, their Works and Relics," Plate VI, p. 272.

†See cuts of copper plates in "Myths and Symbols," Chapter XI, p. 251; also Report of Ethnological Bureau for 1883-4, and Antiquities of Tennessee, p. 342.

The war-club is another implement which ultimately became a craft symbol, as well as a tribal emblem. There are a great many patterns of war-clubs, some of them in the hands of Indians, others engraved on shell gorgets, still others portrayed in the codices, the most of them being of prehistoric origin. The war-club is supposed to be an American or Indian weapon, but in one form or another it is widely distributed, and can neither be confined to either savages or the semi-civilized races of America, though in some of its forms it may be recognized as purely American. If we take the different kinds of war-clubs found among the savages and classify them we shall discover three or four types; one with a round head, a sharp spike at the end of the head; another with the flaring bent head, with sharp spike at the bend of the head; a third with a partially crescent shaped head without any spike; a fourth being in the shape of a ball en-



FIG. 1.—Stone Badges and Maces.

closed in a leather sack and used as a slung shot would be, a fifth being the ordinary stone tomahawk. These various war-clubs have been depicted by Catlin in his paintings and may be seen in the hands of the warriors engaged in their dances. A sixth form may be seen among the more sedentary tribes, especially those of the Gulf States. They were more of the character of batons, and were sometimes decorated with tassels, hair and feathers and were symbolic in their nature. Engravings of these war-clubs may be seen on the shell gorgets and copper tablets taken from the Etowah mounds.

War-clubs or battle axes were used in Mexico and Central America as symbols of the divinity and perhaps of the nature powers, rather than as craft symbols. The war club of the Mexicans differed from that of the savages of the Mississippi valley in nearly all particulars. It was a club which turned up and back, forming angles, but was covered with ornaments about the edge. It was more of a badge of office than it was a club. This kind of a badge may be seen on the ends of the crosses in the palace of Uxmal. There hang from it, to either side of the cross, various tassels, fringes and other figures, all of them significant. The war-club has evidently become a nature symbol, but was associated with the arrow, the weather vane, the thunder

bird and other symbols, which in the growth from savagery to civilization came to be used as the symbols of their religious cult.*

Another article which was very common and which was also a craft symbol is the medicine bag. This, in a large majority of cases, was a personal fetich; was worn about the person as a peculiar charm; was so sacred to the individual that it was generally buried with him. Still the medicine bag was too well known to be always private. It was accordingly carried by chiefs either as a decoration to their spears, as a sign of their power, or suspended to their person as a part of their dress. To the medicine men it became a craft symbol, and was with them an especial emblem of the supernatural. The medicine bag was a personal possession, a private symbol, but it was so common that it could not be regarded as a religious symbol of any one tribe or clan, but it might be the religious symbol of the office of the medicine man. It was, however, the object contained in the medicine bag that determined the dream god of the individual and what was the totem of the clan, as well as the special religious superstition of the people.

Here we would mention the symbols seen on the shell gorgel, representing a sacrificial scene. See Fig. 3. This is supposed by Mr. Frank Cushing to represent the "God of the Winds," perhaps of the two winds, and is more or less like a Mexican figure. "As would be the case in a Zuni representation of the Dawn God blowing the wind of the morning dew through a flute with a flaring gourd-shell mouth, so this personage is shown as if blowing through a somewhat similar instrument. In the mouth of his mask, or 'double,' is seen another of these 'tubes,' on which is cut the zigzag lines of swiftness; while in his hand he carries, as a baton or perhaps a thunder mace, with the stem marked diagonally or twisted, to represent force or violence. If this were a Mexican or a Central American figure, the wind would be shown by a comma, flame or cloud-shaped mark issuing from the mouth of the individual. Again, unlike the Mexican and Central American figures, but typical of other delineations of the Mound-builders, this character wears at his hip a pouch, decked with bosses and plates of copper. All of his other accoutrements, too—copper ear-buttons, the copper crest or comb over his mask, etc.—are crude but characteristic representations of articles found buried, and similarly associated with the dead, in mounds from Ohio to the gulf; articles as distinctive of the Mound-builder Indians as the elaborate plume-dresses, obsidian-spiked war-clubs and the throwing-sticks of Mexican figures are

*See "Myths and Symbols," Chapter VIII, p. 27.

See article on Manual Concepts in *American Anthropologist*, Vol VI, No. 4.

See "Myths and Symbols," in *Prehistoric America*, Chapter IV, Plate IX, p. 107, upper part "Monkey God," and Fig. 8, p. 210, "sacrificial scene," Chapter XI.

of the Aztecs. On the whole, this art of the Mound-builders seems sufficiently self-centered to stand by itself as well as better known arts of other ethnic areas of the continent."

This interpretation of Mr. Cushing's of the different articles and of their symbolic significance is very interesting and very suggestive, but is nevertheless open to discussion. Let us take, for instance, the "baton" which is in the hands of the human figure seen on the small gorget from Missouri, which he calls the thunder mace. This mace resembles nothing else which has yet been seen in the hands of a Mound-builder or Indian, but it does resemble an article which may be seen depicted upon the Maya codices as carried in the hands of the so-called "Monkey God." The same may also be said of the mouth-piece, which Mr. Cushing calls a flute. There is no such instrument found, so far as we know, nor is there any picture of a mouth-piece like it in any other engraving, and until further discoveries are made we must regard the interpretation as largely conjectural. The same may also be said of the pouch, though there are more specimens of this article in the Mound builder engravings than either of the other two, for a similar pouch may be seen on the copper plates from the Etowah mound and on shell gorgets from New Madrid, Missouri, and on the small gorget seen in the engraving. These articles may indeed have been craft symbols which arose from the official use of certain common articles, such as batons, flutes or tubes or pouches, but if they were we have thus far no definite knowledge of the relics having been used by the Mound-builders, and so are inclined to ascribe them to the effect of contact with the more advanced races of Mexico or Central America—a conclusion which is confirmed by comparing them with articles which are seen pictured in the manuscripts of these countries. The symbolic significance of these articles which Mr. Cushing has given so adroitly may be correct, but if so the study of the Mexican or Maya symbolism will reveal it. The same may also be said of that peculiar article which is seen on the back of the human figure, a frame work which bears the same relation to the shoulders as the wings do in the dancing figures and the so-called eagle-man. It, however, resembles a frame which is carried on the back of the Monkey God, on which is placed the image which is borne by that god to the sacrifice. There are also tassels, a head dress and sash on this figure which are unlike those found on any other Mound-builder's engraving, but much more resemble the same articles of dress seen in the Aztec paintings.

POLYNESIAN TYPES IN MEXICO AND CENTRAL AMERICA.

BY PROFESSOR CYRUS THOMAS.

I presented, in a previous article, evidences of a broad distinction between the types of the aboriginal arts and customs of the Atlantic and Pacific slopes of North America. In the same article I gave some reasons for believing that the types of the western slope (including Mexico and Central America) had in part been derived from Polynesia and Melanesia. In the present article I propose to present some additional evidence on the latter point, relating especially to the origin of some of the peculiar features of the Mexican and Central American civilization.

It is well known that there was formerly in use among the natives of Mexico and Central America a peculiar calendar system found among no other tribes of the continent, and, as has been supposed, among no people of the Old World. This calendar, though limited geographically to the sections mentioned, was not confined to any one or two stocks. We are informed by Dr. Brinton, who has studied the subject somewhat carefully from the linguistic and historical standpoint, that "it was in use among the Nahuas, of the valley of Mexico, and other tribes of the same linguistic family resident in Tlascalalan and Meztitlan, in Soconusco, Guatemala and Nicaragua; it prevailed among the Mixtecs and Zapotecs, and of the numerous Maya tribes, it was familiar to the Mayas proper, of Yucatan; the Tzentals and Zotzils, of Chiapas; the Quiches and Cakchiquels, of Guatemala, and to their ancestors, the builders of the ruined cities of Copan and Palenque. * * * It was in vogue among the Totonecas. The Pirindas, Matlazinacs and Tarascos had also accepted it. The Chapanecs or Mangues, part of whom lived in Nicaragua and part in Chiapas, had also adopted it. The tribes above named belong to seven entirely different linguistic stocks, but are not geographically distant. Outside of the area which they occupied, no traces of this calendar system, with its many and salient peculiarities, have been found, either in the New or Old World."*

This is a remarkable fact, which, though perhaps not unprecedented in the culture development of particular areas, is, to say the least, unusual. How are we to account for it? The facts given by Dr. Brinton show clearly that it was not ethnic in its development or distribution, as it had spread over a particular

*Native Calendar of the Indians.

area, without regard to ethnic lines. These facts point very significantly toward a foreign influence, and are most easily accounted for on the theory that its peculiar features were, at least in part, received from some outside source. The reason for rejecting this theory has been that it was supposed these features were not to be found elsewhere. However, if the theory advanced in my previous article of Polynesian influence on the west coast be well founded, and it can be further shown that some of the prominent features of this calendar were in use among the Polynesians, our theory is not only greatly strengthened but the puzzling problem of the origin of this calendar is solved.

We may remark further that the distribution of this calendar renders it quite certain that it was not brought into use until after the entry of the tribes among which it is found, into the region over which it spread, and after the differentiation of the linguistic stocks into their several dialects. This is proven by the fact that no indications of it have been found among the Huastecas, the northern branch of the Maya stock, or the Shoshone, or other northern tribes of the Uto-Aztecan family.

The marked features of this calendar, though not all peculiar to it (if our comparison extends to the Old World), are as follows: The year of 365 days was completed by intercalating five days at the end of the last month; there were eighteen months of twenty days each; each day was designated by a particular name, and besides its name each was numbered, not from 1 to 20, but from 1 to 13, when the number began again with the unit; there was also a sacred year or period consisting of 260 days, though the particular months this embraced are not known; each month was for certain purposes divided into four short periods of five days each; there was also a method of counting the nights by nines, though so far as known this was applied only to the ritual or sacred period of 260 days.

By referring to the "History of the Sandwich Islands" by Rev. Sheldon Dibble, Edn. 1843, pp. 24-25 and 108 and "The Polynesian Race" by Judge Abraham Fornander, Vol. 1, p. 116, et. seq. we find in the Hawaiian Calendar, with one exception (the division into months of twenty days), all of the features mentioned. And besides these we find an explanation of some of the characteristics of the Central American Calendar which are considered the most difficult to account for.

The first named author says "their division of time was very ancient. * * * In one year there were nine times forty nights * * * Twelve months united constituted one year. * * * There were thirty nights in each month, seventeen of which were not very light and thirteen were." Again, he says that "those who took most care in measuring time, measured it by means both of the moon and fixed stars. They divided the year into twelve months and each month into thirty days. They had a distinct name for each of the days of the month." Judge

Fornander remarks that "it is known that the Hawaiians who counted twelve months of thirty days each, intercalated five days at the end of the month *Welehu*, about the 20th December, which were tabu-days, dedicated to the festival of the God Lono; after which the New Year began with the first day of the month *Makalii*." He states further that "the public sacrifices and Kapu-days* were only observed during eight months of the year, and discontinued during the months *Ikuwa*, *Welehu*, *Makalii* and *Kaola*, when in the month *Kautua* they recommenced." He then gives a list of the names of the months and of the thirty days of the month.

From these extracts we see that the Hawaiian calendar corresponded with the Central American calendar in every particular, with the single exception above mentioned. The year consisted of 365 days, made up of the year proper of 360 days and five intercalated days. These five days were added at the close of the last month and were called "Kapu-days." It is true they are usually spoken of when referring to the American calendar as "nameless days," nevertheless they were named and numbered and were devoted to special religious observances. It is also a remarkable coincidence, unless the theory I am advancing be correct, that the same term as that used by the Hawaiians was applied by the Tzents to these days. Referring again to Dr. Brinton's work on the Native American calendar, we quote the following: "Father Varea, writing of this same nation, says that they observed a period of seven days annually in Lent, during which they believed all animals, etc., retired into seclusion. To this period they gave the name *K'apik'ih*, closed days or days apart, *the same term which they applied to the intercalary days.*" The Hawaiian *Kapu*, and its equivalents *tapu* and *tabu* in other Polynesian languages, signify "set apart, prohibited, made sacred"

Continuing our comparison, we notice that the following additional features belong to both systems.

Both systems appear to have included a method of counting by "thirteens," though we have no evidence that the days of the Hawaiian calendar were numbered by this method. Nevertheless Mr. Dibble's statement that "the nights were counted by the moon. There were thirty nights in each month, *seventeen of which were not very light, and thirteen were,*" can not be considered as having any application to the subject unless it refers to a method of dividing the month. The use of this series of thirteens in the Mexican and Central American calendar presents a difficulty which Mr. Brinton fails to overcome with satisfaction to himself. He considers the usual suggestion that thirteen represents one-half the number of days when the moon is visible, between its heliacal conjunctions and owed its

*The term "Kapu-days" is the Hawaiian equivalent to "tabu-days" there being no "t" in their alphabet

selection to this observation, as not entirely satisfactory. He says "an obvious difficulty in this theory is, that according to it the calendar ought not to take note of the days when the moon is in conjunction as otherwise after the very first month it will no longer correspond with the sequence of natural events from which it is assumed to be derived; but as these days are counted, it would appear, although the lunar relations of the calendar in later days cannot be denied, that it had some other origin."

I think there can be no reasonable doubt that the original method of counting time was by the revolution and phases of the moon, the count being by nights rather than by days. This is admitted by Dr. Brinton, who remarks that the twenty-day periods "have been very generally called by terms connected with the word for moon, which indicates that at some time they superseded a more ancient system of reckoning the solar year by a series of lunations." Moreover, the supposition mentioned above, as to the origin of the use of thirteen, implies this. It therefore appears to be conceded on all hands that there was an older method of dividing the year by lunations which give the month twenty-nine or thirty days. The change to a month of twenty days presents precisely the same difficulty on any other theory as that I advance. I believe it to have been arbitrarily made.

The statement by Mr. Dibble, who we must suppose had not made a special study of the Hawaiian calendar, would seem to meet exactly the difficulty suggested by Dr. Brinton; as it appears from it that the original division was into periods of seventeen and thirteen days (or rather nights). A survival of this method appears to be found in the evidence Dr. Brinton gives us of the use of seven and thirteen (making twenty) in relation to one another; and I might add, the frequent use of seventeen as a counter in the codices.

Another point in which the calendars of the two sections agree is that in each was a sacred period, consisting in the native American calendar of 260 days; and in the Hawaiian of eight months or 240 days. I do not find any mention of a "five-day" period in any Polynesian calendar, but according to Crawford, the old Java week consisted of five days, and their month was divided into periods of five days each.

We thus see that with the single exception of the division of the year in the native American calendar into months of twenty days, the two systems agree in every essential feature; while on the other hand but few, if any, of its features are found in any other aboriginal American time-system. The fact that some of these features are found in some Asiatic calendars furnishes no argument against the theory here advanced, but on the other hand serves as evidence in favor of it, as it is now generally admitted that the Polynesians can be traced to south-eastern Asia, being apparently of Malayan descent.

Although the foregoing comparison furnishes strong evidence in support of the theory that the Mexican and Central American calendar can be traced to Polynesia, it does not exhaust this evidence. If we turn to Rev. Richard Taylor's *Tc-Ika-a-Maui*,* we shall find that the objects selected as symbols of some of the days of the New Zealand (Maori) calendar are precisely the same as some of those named in the native American calendar.

It appears that in some of the groups, as, for example, New Zealand, Java, etc.—and as Dr. Seler holds, also in Mexico, certain deities, or, as Crawfurd terms them, "Regents," presided over the days, one deity over each day; and were the authors or creators of those things by which the days were symbolized. In the list given by Mr. Taylor for the thirty days of the month, we find the following names: The Shark (or some sea or land monster), Wind, Rain (or Dew), The Dog, Lizard, Stone, Storm and Tempest, Bird (in a general sense), and Lakes and Rivers. If we assume Storm and Tempest as equivalent to Movement or Earthquake, and Lakes and Rivers as equivalent to Water, which is certainly legitimate, we find all these names in the Mexican calendar. That is to say, nine out of the twenty symbols (or things symbolic) of the Mexican days are found in the list of symbols of the days of the New Zealand month. These agreements are certainly remarkable, and I might say almost, if not quite unparalleled, if there was no former intercourse between the inhabitants of the western coast of America and the Polynesians. Especially is this true when we take into consideration the differences in the physical conditions and fauna of the two sections.

Even this does not exhaust the evidence which can be adduced indicating that the native calendar of Central America and Mexico was derived, in part, from Polynesia. The theory seems, from the comparatively limited examination I have made, to bear successfully the crucial test which linguists require. It is true we should expect to find scattered through the languages of the area over which this native calendar has spread at least a few loan words and borrowed names. Some indications in this direction ought to appear in the calendar names of some of the tribes using it. The forms will, as a matter of course, be more or less modified by the idiom of the languages adopting them, but the original conception should be substantially retained. On the other hand, as the Polynesian dialects belong to one linguistic family and are closely allied, it will be legitimate to search for such words in any and all of them, allowance being made for the letter interchange, as *l* and *r*; *t* and *k*; *p* and *b*, etc.

Adopting this supposition, I have made a comparison of the limited data I have at hand, and find it confirms to a much greater extent than I anticipated, the theory advanced, and shows that the field is one well worthy the attention of linguists.

*Pp. 133-137.

In order to show the method of this comparison and the nature of the results obtained, I note here some of the resemblances observed. It will be necessary, however, for the reader who wishes to understand thoroughly the bearing of these comparisons, to refer to Dr. Brinton's "Analysis of the Day-Names," in his recent work, entitled "The Native Calendar of Central America and Mexico." In numbering the days of the month I follow the order adopted by Drs. Seler and Brinton.

The First Day. This is given in the Maya calendar as *imix*; the Tzental as *imox* or *mox*, and the Quiche as *imox* or *moxin*. As these languages are closely allied dialects of the Maya stock, it is evident that the names have substantially the same signification, but this is a mystery not yet thoroughly explained. What is this meaning? As the Mexican name certainly denotes some kind of fish or reptile, and the name in the Zapotec calendar probably refers to a lizard, Dr. Brinton is inclined to the opinion that the names of the Maya dialect refer also to some fish-like animal or some reptile. As the root of the word in each dialect is *m-x*, he refers to the Maya word *mex* or *mex*, "the spider-fish." As *x* is equivalent to *sh*, he might have referred to *mech* or *ixmech*, "a newt" or "water-lizard."

Turning to the Polynesian languages, we find that in Hawaiian *mo'o* (*moko* or *mochu*) is "the general name for all kinds of lizards," and that in Tonga, *moco* is "a species of lizard." These connect quite closely with the Tzental name, *mox*, and at the same time furnish a satisfactory explanation of the term.

The Second Day. The Maya, Tzental, Quiche, and Mexican names of this day all signify "wind." The signification, however, of the Zapotec names *gui* or *nii* or *lau* is uncertain.

Dr. Seler derives *gui* from *quii*, "fire, flame;" Dr. Brinton says, as we find in that tongue *nii*, "air, wind," and *chiic*, "breath," we may bring these into harmony with *gui*; and adds that *guiebee* signifies "wind-and-water cloud." He connects *nii* with *nici*, "to grow, increase, gain life." It is apparent, therefore, that they are somewhat in doubt in regard to the true signification of the name.

An appeal to the Polynesian dialects will, I think, enable us to solve the mystery. Compare with the Zapotec, *gui*, the Tonga *buki*, "to blow anything out of the mouth with force"; New Zealand *puk*, "to blow"; and Hawaiian *puki*, "to blow, as the wind, to puff, to breathe hard." Coming back to the Maya we find the word *ppuk*, "to blow, fan, disturb." The elongate form giving the mouth of the symbol of the Mexican day (*checcall*) in the Mexican codices, and of the female figures on plates twenty-six and twenty-eight of the Troano Codex, (which are emblematic of the storm) suggest very plainly the idea of "blowing from the mouth," which is evidently the primary signification of the Polynesian terms. Here we see the extended lips giving the form of a bird's bill. Now it is very significant

in this connection that *nii* or *ni* in Maya and several cognate dialects signifies "nose, beak or point."

Thus we may go through with the several day names of the calendar, except such as "deer," "monkey," "tiger," and other animals unknown to the Polynesian islands, and find corresponding words in the Polynesian dialects, which throw light on the signification of the names in the native Mexican and Central American calendar. What has been given will suffice to show the character of this evidence; space will not permit us to go through the list.

There are also indications of borrowed words, besides day names, found scattered through the Maya dialects. Thus in Maya *tok*, "a flint," in New Zealand *toka*, "a rock," Maya *totok*, "to bleed repeatedly"; N. Zeal. *toto*, "blood," Maya *likin*, "east, or sun-rise"; Hawaiian *Ilikina*, "east or sun-rise." Maya *chu*, "calabash"; N. Zeal. *hue*, "calabash." Maya *puhui* or *puhuy*, "a night bird;" Hawaiian *puco*, "an owl." Maya and cognate dialects, *pepem*, *pepen*, "butterfly," N. Zeal. and Tonga, *pepe*, "butterfly," etc. As quite a number, perhaps dozens, of such corresponding words are to be found, some, at least, must be considered, loan words from one section to the other.

The only probable assumptions we can make in regard to the introduction of this foreign influence or element are the following:

First, That it was by the landing of foreigners from some of the Polynesian islands on the western coast, among whom were priests or persons familiar with the Polynesian calendar. As this element would soon be lost by absorption, it would have little or no effect on the physical characteristics of the American race.

Second, As this calendar system is found only in Central America and the southern half of Mexico, the foreign element which introduced it must have reached the coast within this limit, otherwise we should find it further north or south. This however applies only to the particular foreign element which introduced the calendar, and does not touch the question of contact further north or south.

Third, This introduction must have taken place after the several tribes had reached substantially the areas they were found occupying at the time of the Spanish conquest. This conclusion is based, first, upon the fact that the area over which the calendar extends is limited to the region mentioned; and second, that it is not ethnical, as it has been adopted by tribes belonging to seven different linguistic stocks, and that on the other hand the more northern branches of some of these have never used it.

I shall not attempt at present to follow up any of the other important questions which are raised by the theory herein advanced.

ARCHÆOLOGY OF THE SAGINAW VALLEY.

THE EXHIBIT AT THE WORLD'S FAIR.

BY HARLAN I. SMITH.

Along the shore of Saginaw Bay, and throughout all the territory draining into it, are found the remains of a primitive people. The quarry where these people obtained the pipe stone for their pipes has been discovered. It is very probable that there are old quarries where chert nodules of the subcarboniferous series were also obtained, as this rock, which is the most frequent material of the chipped implements, outcrops in many places, not only along the bay shore, but also near the headwaters of the river. Workshops, village and camp sites, burial grounds, burial mounds, enclosures and embankments have been located, and near all of these have been found pieces of chert nodules in various stages of formation, from the fractured nodule of raw material to the delicately finished implement. There have been found also in this limited territory nine caches, or deposits, of which records have been preserved. How many may have been accidentally disturbed or unearthed and never reported is not easy to estimate. But it is very probable that many more of these interesting deposits of the treasures of the primitive people will be found as the valley is more completely examined. A map locating each of these caches, and eight of the deposits, was represented in the exhibit. The blades of seven of the caches were of a material closely resembling the nodular chert rock previously mentioned. Altogether, eight caches containing blades of this material have been found. Representatives from all were exhibited save one, discovered by Mr. Gleason, that being deposited in the Peabody Museum, and was the first complete cache, with a full label, to be received by that museum. Some of the deposits contained simple, rudely shaped blades and "*turtle backs*," but others contained finely finished implements. One of these caches exhibited consisted of nodules of unworked chert "*turtle back*" shaped blades, with chipping on but one side, blades having one side beveled, and "*turtle back*" shaped blades having both sides chipped. So in this cache we find specimens of four forms, the direct result of the manufacture of chipped implements in a cache. In one of the caches two celts were found, and in another a number of ribbed stones were placed around a large finely chipped knife. The caches have all been found near navigable water, which

was in direct communication with all the greater outcrops of the chert-bearing rock.

Although scarcely any archæological work has been attempted in the lower peninsula of Michigan, a small exhibit was made at the World's Columbian Exposition of materials and plans illustrating, in a measure, the archæology of a portion of the Saginaw Valley. The exhibit occupied seventy-five square feet of space, adjacent to that of Ontario, and consisted of a part of the results of the works of Mr. Edward S. Golson and myself in the territory indicated.

Maps were exhibited, locating as far as possible the principal village sites, workshops, graves, burial places, mounds, etc., and showing the hydrographic basin of Saginaw Bay. The specimens were arranged in reference to these maps. All materials from one village site were placed together, so that the visitor could readily see what had been found at any single locality, and would know just what one might expect to find on a village site.

A large village site on the eastern banks of the Saginaw river, now in the city of Saginaw, was represented by the usual village material. Perhaps deserving mention was duck-shaped stone, which had been pecked into shape, and upon which the polishing had not been carried over the entire surface, only the sides of the head having the appearance of any grinding. There were no perforations specimens, as is usual with such forms.

From a village site and cemetery farther up the river were exhibited several pipes and stone beads, besides the usual material common to such places. Farther beyond, at the junction of the Shiawassee and Tittabawassee rivers there was a very large village. This place was inhabited even down into historic times, and then by the Chippewas, early French settlers and house-boat fishermen in the order mentioned. Traditions of the Chippewas state that in early times another people had a great village here, and the neighboring tribes united in a war of extermination and destroyed the village, burying the unfortunate inhabitants in two large conical mounds. It is interesting to note that such mounds exist on the western side of the village site. These we may or may not please to connect with the tradition. A photograph of one of these mounds was exhibited, as well as one of the water front of the village. This locality is rich in stone and pottery remains, and more bone implements have been found upon the surface here than at any other place in the valley. From the surface of this place is exhibited, among the other remains, a celt in process of manufacture. It is simply a water-worn pebble which has been partly rubbed to the edge, but the process had been suspended before the implement was completed, and instead of a sharp edge we have the water-worn surface continuous with the part which had not been ground. The specimen is not dulled by use, as with-

out careful examination might seem to be the case. Mr. Golson exhibited from this place a copper awl about two inches in length. It was also at this point that Mr. Golson discovered two of the caches while co-operating with the author in preliminary examination of the village.

On the bank of the Tittabawassee river, several miles above its junction with the Saginaw, several caches were found, in which were some beautifully chipped chert knives over seven inches in length. Here, too, was a large village site, work-shop and a burial mound. From this locality were exhibited, as of especial note, a number of copper beads, a copper ring and a piece of perforated copper. The string from the beads had been partly preserved by the copper salts. A copper celt was also exhibited from this place by Mr. Golson. Hammer stones, chert drills were numerous at the workshop where these copper objects were found. Several village sites in this region were represented, but mention of them can not be made at this time.

A pottery urn, (restored) found inverted over the head of a skeleton at a village site and burial place on the bluff at the bend of the Cass river, six miles above Saginaw, is unusually well preserved for so large a pot, and one from a locality where nature does not smile upon archaeological specimens as she does in Peru and Colorado, but rather sends frost and moisture among the other elements to do them damage. This urn, now one foot and eight inches in length and three feet in circumference, must originally have been over two feet in height.

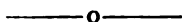
The several village sites, work-shops, etc., near Bay Port and on North and Heisterman Islands, contributed an unusual proportion of rude and interesting material. A calvarium (250) having a cephalic index of 83.14, and an ostriquitum from a burial place on the Flint river, and a calvarium (251) having a cephalic index of 83.52 and a slight flattening of the lambda, were the only objects exhibited that were of especial interest to the craniologist.

A few pieces of metal work were shown of the early historic period, when tomahawks were made by the early French traders by bending a piece of band iron into a loop and welding the ends, which were made to form the blade.

Then there was one of the silver breastpins, or bracelets, probably bought from the traders or given by the Catholic fathers. The cloth was drawn through a hole in the center of the pin and the tongue was thrust through in a manner similar to a buckle. This held the garment in place. The Penobscot Indians from Old Town, Maine, who were represented on the ethnographical grounds at the exposition, wore a pin of similar pattern. Materials obtained from the Ayres mound, together with a photograph of the mound, which was of the typical conical form and contained strata of ashes, burned clay, etc., were also shown.

A mass of specimens from various parts of the valley, which could not be classed as from any particular village site, but thought to be more properly termed general surface finds, was arranged upon the basis of form. The chipped implements were placed together, then the celts, grooved axes, ceremonial slate objects, etc. With this lot of material was a red sandstone celt, the material of which is supposed to have come from Lake Superior.

The endeavor throughout the arrangement of the entire case was to give the best possible opportunity to study the specimens, to show a use for such material and for careful exploration, and with the aid of maps and photographs to convey to the visitor some information respecting the archaeological resources of the Saginaw Valley.



PALESTINE EXPLORATION FUND.

By THEODORE F. WRIGHT.

For about a year we have been anxiously waiting for the granting of the firman which was to open the way to new work of the most important kind. I can only report that the last word from London is reassuring, but shows the weariness of longing. The delays which the Turkish government cause are, of course, reasonable in its view, but to the outside world it seems as if the Palestine Fund, with its men of experience and scholarship, ought to be permitted to do what it will, provided damage to crops is paid for, as it would be.

No one is idle, however, and Mr. Bliss is busy bringing out his book on Lachish. This is the first *tell* or city mound ever explored in Palestine, and its results show what may be expected in the future. There were certainly eight, and possibly eleven, cities succeeding each other on this site, and now we know what sort of place it was which Joshua captured. From the tablet there found the highest expectations have arisen as to the future finds.

The rain-fall of Palestine, as shown by tables issued in the January Quarterly, has increased marvelously. In one recent year, 1889, as little rain fell as ever before, but still, reckoning this in, we have plain record that the average annual rain-fall has increased six inches, that it is six inches more for the last sixteen years than for the previous sixteen. The period measured was from 1861 onward. This change of rain-fall is the greatest blessing which could happen to the land. Should the increase continue, much more tillage will take place. To reach thirty-five inches of rain is an almost incredible change from thirteen.

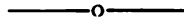
A very interesting study to anthropologists has lately been

made, and is also republished in the Quarterly, as to the orders of holy men or Dervishes. There are four such orders, and they claim for their respective founders the chief place in miracle-working. The process of initiation is described. The use of serpents is fully investigated. The survival of sacrifices and other Bible customs is shown.

The Contour Map, which created so much interest at Chicago, is now in the hands of the best American maker, and it will not be long before, by the completion of contracts, the sale of copies can be announced. As there is some apprehension that American work will not be of the same standard as the English, let me say that it is identically the same map which is reproduced, and that the coloring and so forth will be fully equal to the foreign work.

As yet the Nairn-Damascus railway, which is progressing steadily, has opened no archaeological treasures, but it is likely to do so, especially when it has advanced further eastward. It is a great help to our work, as it will be to the traveler, in the near future.

Cambridge, Mass.



Correspondence.

THE MUTILATION OF ARCHÆOLOGIC FINDS.

Editor American Antiquarian:

Why is it that the first thought of the average man on the finding of an Indian relic seems to be, How can I best destroy or mutilate this thing? Perhaps he will term it a "curiosity," which I have heard used in this relation. On picking up an arrow or spear-head or other implement of flint he at once proceeds as a rule to pound its edge with his knife to show the bystanders, if any, how adroitly he can fetch the sparks--especially does he do this if the implement be an unusually fine one. If the specimen be other than flint he either hacks, cuts, grinds, or disfigures in some way if possible. One nameless individual, who should have known better, insisted on showing me how he could draw sparks by clinking one of my best spear-heads. On my restraining him he insisted the more, perhaps thinking that I doubted his ability to perform in that line; needless to say no fire was drawn.

If one could have a lithe of the prehistoric implements which have been found during the last fifty years in our eastern Mohawk valley and regions closely adjoining, and which afterward have been destroyed, scattered or lost, a superb collection would result.

One fine little pestle or paint-muller in my collection was disfigured by its finder by scraping with a knife. A beautiful little cup of steatite in my possession was smeared with a solution of aniline or some other red coloring matter, being thereby rubricated, I am afraid indellibly. A priceless pipe was smoked in and afterward dropped on a hard floor and badly cracked. Some few years ago a neighbor on picking up a finely made octagonal pipe bowl, gave it to his little boy to play with, with the usual result, a smash. Another pottery pipe of a common Iroquoian form had been promised me, it could not be found.

About twenty years ago, in the township of Glenville, at a point about five miles west from the city of Schenectady and being not far from the Mohawk river, was exposed, by the operation of a steam shovel working in a gravel bank, a grave and its contents, which if it could have been placed, in the care of and properly described by a competent person would perhaps have been of considerable anthropological value. I did not hear of nor see the objects found until a long time after their discovery, or rather destruction, but what I finally did see, was a most beautifully preserved skull with solid teeth, (the interment had been made high in a ridge of gravel) a shuttle shaped gorget of alabaster, some awls and a hook of bone, a lot of perforated shells, (no doubt a necklace,) two slate tubes, (possibly pipes), ornamented with carved lines, and a fine copper axe. Some boys first noticed these relics, skeleton and implements all lying together in the gravel pit, and at once proceeded to stone them, and in so doing they smashed the two slate tubes. A brother of the owner of the quarry hearing of the find then stepped in and secured the objects, but he treated them not much better than did the boys, as he put the copper axe to the grindstone, perhaps thinking to give it a finer edge than the last owner had been able to do. I would here remark that this axe remains the only pre-colonial implement of copper yet found to my knowledge in Schenectady county save one, and this one exception is lost, though I have a slight hope of recovering it.

Of the contents of this grave I was only able to secure the gorget, the rest were scattered, and the last I heard of the copper axe it had found its way to Williamsport, Penn. Probably by the rude manner in which this grave was exposed, many things were lost or overlooked, and it is certain that other graves were disturbed, for I was informed of one skeleton which had been tossed onto a car by the steam shovel before being noticed.

I will inflict on the reader but one more case from the many that have come under my immediate observation. In August, 1892, I obtained from a farmer living near the outlet of Saratoga Lake, a neatly formed gorget, made from the red slate which abounds in Washington county, N. Y.

This gorget, picked up on one of the sand dunes in that vicinity, being perfect when found, was afterward shattered badly on one end, the result of its being given to a child for a plaything. Mr. A. G. Richmond, of Canajoharie, N. Y., tells me that he has suffered greatly through such vandalism. He informs me that he missed procuring a fine pipe by its owner insisting that he must retain it to smoke in. He also mentions the finding of a beautiful polished corn pounder, eighteen inches long, which the owner allowed to be destroyed through pure cussedness.

The reader may remember the curious stone image from Eastern Ohio, described and figured in Vol. III, *AMERICAN ANTIQUARIAN*, (Oct. 1880) which was set up by its owner in a position "where it became the target for the stones thrown by all the small boys in the neighborhood." This curious object was afterward sent, minus chin, lips and nose, to the Smithsonian Institute on loan. Mr. Whittlesey, in the Smithsonian Report for 1881, on page 629, tells us of the destruction of other images found in Georgia.

I suppose that the readers of this journal could add to these few cases mentioned, until the record of implements found perfect, but afterward disfigured or totally destroyed, would sum up into the thousands. Would it not be an excellent idea if some one capable should write up and publish an appeal to the American farmer in regard to this matter—an appeal which ought to be copied by every country paper in the land? In one sense, however, such an appeal might defeat its own object by leading the finders of prehistoric objects to place on such, an exaggerated value, unless so worded that such a result would not obtain. In regard to the half way piece-meal exploration or "digging for relics" in the mounds which dot the central states of our country, Mr. Moorehead has said an able word in his paper, "Information for Collectors," published in the January (1884) number of *The Archaeologist*. Something might well be said about the importance of keeping together finds of associated objects, such as the contents of graves, as in the case noted in this paper, and of articles found en cache.

How often I regret the scattering to the four quarters of the earth, by exchange and gift, of the major portion of a fine lot of lanceolate blades; this in my earlier collecting days.

Happily I am able to record the preservation entire of a cache recently unearthed in this vicinity by a friend. The blades comprising this find are of unusual form and the entire series will probably (after some study) be presented to some museum.

To all these wholesale charges of vandalism, there are numerous happy exceptions, many people gladly turn over relics, more or less valuable, to persons whom they know will appreciate and care for them, or send them to some museum, where they properly should go. Here, however, a word of caution might be in

place. Be sure that the museum to which your donations are made, is one in which anthropology holds equal place with the other sciences. Objects of pre-historic workmanship might almost as well be buried under the pyramids as to be placed in certain public museums of note that I could name;—tucked away in some obscure corner; hidden from the light of day, and from the eye of the visitor by an array of stuffed birds, unstuffed megatheriums and what not; many series of interesting objects packed away in boxes and drawers, where they have lain for years, undescribed, uncatalogued and all but forgotten by the custodians of the museum.

Luckily we have certain well known institutions, such as the National Museum, the Peabody Museum at Cambridge, the American Museum of Natural History at Central Park, New York, and others, where archaeological specimens may be sent with the full confidence that they will be appreciated for exactly their archæologic value.

PERCY M. VAN EPPS.

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ACCADIAN AND TURANIAN.

Editor American Antiquarian.

Referring to your previous letter, there is actually no evidence that Accadian is related to Turanian. Halevy denies it, and Haupt doubts it. They think the so-called Accadian is merely a cryptographic method of writing the Semitic Babylonian. I drop "Turanian" and prefer "Siberic" for all that group of agglutinative languages which can be traced back to Siberian regions. "Ural-Altaic" is scarcely broad enough. Truly,

December 24, 1893.

D. G. BRINTON.

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LONG-HEADS AND SHORT-HEADS.

Editor American Antiquarian:

In the AMERICAN ANTIQUARIAN for November, 1892, page 356, you gave a short review of "Primitive Man in Ohio," by W. K. Moorehead, in which I see my name mentioned as contributing a chapter to said work. In the preface, p. vii, Mr. Moorehead credits me with writing Chapter III on the Muskingum Valley, and says: Each author is responsible for the statements set forth in his department.

What I wrote was concerning my explorations of the mounds in Adams Township and adjoining territory in Washington County, Ohio, with a brief mention of the mounds between

Marietta and Meigs' Creek, Morgan County, a distance of about thirty miles. But the author seems to make it appear that this part of the Muskingum Valley was inhabited by a long-headed race of Mound-builders, which was not the case. On page 28, he says: *The crania are all dolichocephalic.* In my article I did not say anything about the long-heads or the short-heads.

I have five fine skulls in my collection, all found within one-half mile of Lowell, and they are all short-heads; all the skulls I have ever found in this valley that were perfect enough to give an idea as to their shape have been of the same kind. I never found but one lot of long-head skulls, and they were taken from a mound on the banks of the Iroquois river, near Rensselaer, Indiana. I have the only perfect one of the lot in my cabinet.

Yours respectfully,

Lowell, Ohio, Dec. 20, 1893.

WILLARD H. DAVIS.

THE TERRACE OR STEPPED FIGURE.

Editor American Antiquarian:

Your drawings came enclosed. Of course you know that Mr. Holmes believes the double terrace to be, but a modification of the meander, produced of necessity in basketry, and afterwards transferred from basketry to pottery. Mr. Cushing, I think, says that the people of Zuni interpret it as meaning the terrace of the pueblo below and the terrace of the storm-clouds above. Since the symbol is used by many races who have no terraced pueblos, this explanation can hardly account for the origin of the pattern. The Navajos think it symbolizes the white zigzag lightning on a black cloud. The pattern shown in one of your drawings, and common from Peru to Arizona, I have seen somewhere interpreted as an animal symbol.

Yours very truly,

WASHINGTON MATTHEWS.

Fort Wingate, New Mexico, Nov. 25, 1893.

MONITOR PIPE IN NOVA SCOTIA.

Editor American Antiquarian:

In regard to the pipe with a keel, of which I wrote, I did not say anything of its resemblance to a boat, though the lower part of the stone, on which the bowl was planted, was in shape like the keel of a vessel. This was the only thing I could compare it to—the idea of a boat was not suggested.

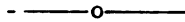
Mr. Harry Piers has treated the collection of Indian relics in our provincial museum. His paper is published in the Trans-

actions of the Nova Scotia Institute of Science, Vol. VII. He adopts my description of this pipe (it resembles a glass stopper inverted—Ed.) as having the lower part like a keel, and gives a plate of one in the museum. I will try to get a copy and send you. What I think more singular is the finding of a flat pipe (monitor pattern) in Nova Scotia. It is figured in the same work. I at first doubted whether it could have been found here, but am assured that it was.

Sincerely yours,

GEORGE PATTERSON,

New Glasgow, Nova Scotia, Nov. 10, 1893.



ETHNOGRAPHIC NOTES.

By ALBERT S. GATSCHET, WASHINGTON, D. C.

DR. JULIUS PLATZMANN, well known to scientific readers by his accurate reprints of ancient Central and South American grammars and dictionaries, has written a book of small volume in which he gives his reasons for reprinting such relics of the past. The title is: "Wesshalb ich Neudrucke der alten amerikanischen Grammatiker veranlasst habe." Leipzig, B. G. Teubner, 1893. 12mo., pp. 136. In this publication are treated problems of phonetics, morphology of language, of affinities of words existing in words of the most distant countries, of ethnogenesis, phytogenesis, anthropogenesis. Although many of his readers may disagree from him on etymological topics, we are always ready to hear what a scientist of world-wide travel and of much literary experience has to state about the work that he has made the purpose of his life.

One of his latest and very meritorious republications is the "Dictionnaire Caraïbe-Français composé par le R. P. (Révérend Père) Raymond Breton. Edition Fac-simile." Leipzig, B. G. Teubner, 1892. 12mo., pp. 480. The original was printed at Auxerre (France) by Gilles Bouquet in 1665, and by its numerous remarks to many of the vocables is of great utility to the ethnologist and naturalist as well as to the linguist. It is printed in two columns, the Indian in Roman, the French in italic type.

THE NEW "GLOBUS."—The geographic and ethnographic weekly periodical *globus*, published by Vieweg of Braunschweig, appears this year in a novel shape, having substituted the Roman to the German or "Gothic" type, but appearing as it did before in quarto, the editor, Dr. Richard Andree, remaining in charge. With the first of January, 1894, it enters upon its sixty-fifth half yearly volume. It has been consolidated with Cotta's "*Ausland*," a periodical which was pursuing the same purposes in furthering the science of nature and of man, and had been before the public for sixty-six years. The editorial staff is composed of literary and scientific men of note, and the artists are furnishing the best of work in illustrating. Articles on America appear frequently, as may be seen by the following list: Andree, a Brazilian ax in anchor-shape; Nielsen, Mexican Cave-Dwellers; Dr. Philipp, Eruption of the Calbuco; Foerstemann, Central American Calen-

dar System, Dr. Seiler, the Quimbaya; Chilean Stone Age; Nansen's Polar Expedition.

HEWITT ON POLYSYNTHESIS. The subject of polysynthesis observed in the languages of North and South America has called forth the inquiries and divergent opinions of many scientists. Some confounded it with incorporation, others thought it was one of the various ways of incorporation. Many students thought it was a feature distinguishing American languages from all others, while others who knew better denied this. To render this important point of linguistics more clear and to create a sober basis for a fruitful discussion of the matter, I. N. B. Hewitt, a Tuskarora Indian by birth and a member of the Bureau of Ethnology, has taken up the question again and published his views in the "American Anthropologist," October number of 1893, pp. 381-407. At first he attacks the position of Peter S. Duponceau, whose definition of polysynthesis is too wide and general, and based one sidedly on the study of the imperfect Algonquin material accessible to him. Dr. Daniel G. Brinton, who wrote a special treatise, entitled "Polysynthesis and Incorporation as Characteristics of American Languages," (*) is then criticised and his definitions revoked in doubt as defective and incomplete, pp. 392-400. Follow the opinions of William D. Whitney, Dr. Lieber and J. Owen Dorsey upon the question.

Another paper of the same author deals with the "Era of the formation of the historic league of the Iroquois." The commencement of that era had been placed by Horatio Hale about the year 1450, but Hewitt for reasons stated by him assigns it to a period about A. D., 1200.

OMAHA INDIAN MUSIC. In June, 1893, the Peabody Museum, Cambridge, had published No. 5 of its octavo series of papers, which contains "*A Study of Omaha Indian Music*," by Alice C. Fletcher, assistant in American Ethnology, Peabody Museum, and holder of the Shaw Fellowship, aided by Francis La Flesche, pp. 152. This interesting publication's quite outside of the run of ordinary books, and Miss Fletcher has fitted herself for writing on this and other Indian subjects by a residence of ten years among the Omaha and other tribes of the Dakotas, stocks. She has also studied the songs of the Pawnees and Nez Percés. The last mentioned tribe she visited on an official trip to Idaho, on which she had to support her friends in severalty to the Nez Percés families. Many or most of the Omaha songs are sung during the religious or ceremonial dances of the people, others were sung to her when she was prostrated by sickness in her tent. The baritone and mezzo-soprano are more common than the higher or lower class of voices. Open air singing tends to strain the voice and there is little attempt to render *faint* or *forte* passages. Of great assistance to her was Fr. La Flesche, an Omaha by birth and clerk in the Bureau of Indian Affairs at the capital, for he is thoroughly familiar with the music and melodies of his people. There are eighty-eight Indian songs with the Omaha text below, arranged for the piano and four having the notes only. This arrangement is due to Professor John Comfort Fillmore, A. M., who also added a long "report on the structural peculiarities of the music." How correctly Mr. Fillmore has reproduced the true accents of Omaha music

*Published in Proceedings of the American Philological Society, Vol. 1, p. 38. This pamphlet is now a useful reference to the part of the author.

the present reviewer is unable to say, for he does not belong to the rare birds who combine musical science with a scientific knowledge of Indian music, being acquainted only with the *musical* accents of our family and pet animal, the cat.

A. F. BANDELIER'S FINAL REPORT, Part II, to the Archaeological Institute of America (American Series, No. IV) of his "Investigations among the Indians of the Southwestern United States, carried on mainly in the years from 1880 to 1885," (Cambridge, Mass., 1892), forms a beautiful, illustrated volume of 591 octavo pages. In some respects this is a recapitulation of the author's researches previously published, but in others it is perfectly original, and throughout it is fascinating by the novelty of the scenes that come to view, remarkable by the familiarity of the author with all parts of the countries described, by the historic and geologic tableaux presented, and by the wealth of erudition necessary to complete such a work as this. The narrative leads us from the pueblos of the Taos, Tehuas, Taños, to the mines of the upper Pecos River, then along the upper Rio Grande to Jemez, the Tiguas and the Pros into Northern, Eastern and Southern Arizona, Tucson, the Sierras Huachuca and Cananea. From there we are led across the boundary of the United States into the valleys of the Sonora River and Oposura to the upper Yaqui and to Northwestern Chihuahua, through mounts and cliffs, woods and deserts, sandy plains and yucca fields, ruins and inhabited pueblos. The most fearless American explorer of our times has earned for himself by this book a lasting monument, not as an antiquarian only, but as a historian as well.

DR. I. WALTER FEWKES, a New England archaeologist and member of the Hemenway Southwestern Archaeological expedition, is now busy in describing and commenting the Pueblos, the ruins, the sights and customs observed by him in the southwest in the past years. The following articles were produced by him in the "American Anthropologist," 1893:

1. "A CENTRAL AMERICAN CERIMONY, which suggests the snake dance of the Tusayan (or Hopi, Moki) villagers." The festival discovered to be analogous to the snake dance is the *atamalqualtzili*, or festival of the unsalted, or unspecked water pancakes, as described by Father Sahagun and celebrated every eighth year. The Nahuatl text, Dr. Seler's German and Dr. Fewkes' English translation are subjoined. To explain similarities like these occurring between many tribes along the Pacific coast, we shall do well to remember that the Shoshonian division, to which Tusayan belongs, pertains to the same linguistic stock as Nahuatl.

2. AWATOHU; an archaeological verification of a Tusayan legend. The present inhabitants of the Moki Pueblos remember certain events that took place in their country and ended with the destruction of the Pueblo Awatohu, or "Place of the Bow People," in 1700. These events are attested in a document of 1713 and Dr. Fewkes' investigation of the ruins tends to confirm in a wonderful manner what the legend states about the occurrence.

3. Dr. Fewkes has also composed an instructive article "On certain personages who appear in a Tusayan ceremony," the name of which is Powimûh. It is celebrated in January, and men appear in it disguised as monsters *matishka*. The dress, disguise and paraphernalia of the men are fully described and made plain by a number of illustrations, and comparisons with similar ceremonies are adduced from Sahagun and other Mexican

sources. (*American Anthropologist* 1874, pp. 32-52). It has several points in common with the *Chpantitli* of the Nahuas, and with the *Cona* of the Mayas.

EXPLORATION IN SOUTH AMERICA.—Dr. Herman ten Kate has returned last year from his Oceanic and South American explorations to Scheveningen in Holland, and is now digesting his field notes for preparing reports. One of his reports will appear in the "*Revista del Museo Argentino*" at La Plata, Argentinean Republic. Another was sent to the chief editor of the *American Anthropologist*, Dr. Frank Baker, and will appear in the next number of that periodical. His explorations and discoveries in Indonesia are to be printed as a serial in "*Tydschrift v. het Aardryksk Genootschap*" in the year 1877, profusely illustrated. The editor of the "*Internationales Archiv für Ethnographie*," Dr. J. D. L. Schmeltz, discusses the archaeological explorations recently made in Northwestern Argentina, as follows: "The Museum of La Plata sent out an expedition to the northwestern provinces of the republic. Besides geographical and geological explorations, its object was the study and collecting of Calchaqui antiquities. During the nearly four months of field work, the museum expedition under the leadership of the director, Dr. Francisco P. Moreno, has collected very important material and numerous archaeological objects, pottery, of various sizes and decoration, implements of stone and bone, copper ornaments, fetiches, remains of textile fabrics, human bones, etc. Many petrographs were copied and several ruins surveyed. Dr. H. ten Kate, in former years a member of the Hemenway Archaeological expedition, under Mr. Cushing, was more particularly in charge of the archaeological section of the museum's expedition. His former experience enabled him to find many parallels between the Shiw or Zúñi culture and the now extinct Calchaqui civilization. The field of exploration was situated in the mountainous regions of the provinces of Catamarca, Tucuman and Salta, especially in the valley of Santa Maria. Calchaqui archaeology is very little known as yet. Recent publications on the subject are those in the *Revista* and *Anales* of the La Plata Museum, and in the *American Anthropologist* 1871, by Dr. Moreno G. Lange and Latone Quevedo.

HUNGARIAN ETHNOGRAPHY.—Like all other cultured nations, Hungary, or the eastern part of the Austro-Hungarian empire, also has its ethnologists, who with great industry and intellectual power are searching the ethnic peculiarities of the nations inhabiting the vast realm. The editor of an interesting magazine published for this purpose in Budapest are Prof. Anton Herrmann and Ludwig Katona. The periodical is polyglottic, but confines itself more and more to the German language; its title is "*Ethnographische Mittheilungen aus Ungarn, Siebenbürgen, Österreich, Preussens, etc.*" for the *Völkerkunde Ungarns*. From the original quarto size it has been reduced to the more handy octavo, in 1871, four fascicles having been issued since then. None of the eastern nations of Austria, Russia or Turkey are excluded from its columns and at times ethnographic news from Asia and Africa may be inserted also. Some of the noteworthy recent articles are the following: Albanese People of Slavonia, Right and Wrong Among Wogus and Ostjaks, Cosmogony of the Wogus, Magyar Popular Ballads, Spanish Colonies in Hungary, Petch and Indj in Turkey, Children's Games in Transylvania, Italian Songs from Friuli, On Hungarian Gypsies, Oluvai, Magyar

Hungary, The Saxons of Transylvania; A Bosnian Guslar Song, "King Mathias and Peter Gereb."

LITERATURE ON BUDDHISM is quite rich nowadays in publications of all sorts and tendencies, and students of Buddhism are quite surprised how near its founder, Gautama, approached the principles which were, six centuries later, embodied in the Christian religion. Ranking among the most noteworthy of recent books on that Asiatic form of self-abnegation and asceticism is Prof. Dr. Adolf Bastian's "*Der Buddhismus als religions-philosophisches System*," Berlin, 1893, which is an inquiry into its essence and chiefly into its origin. It shows that this most remarkable of all the oriental religions is based more especially on speculation and research than Zoroastrianism and Confucianism, and that in later periods of its evolution was profoundly merged in mysticism. The purpose of Bastian's publication is to prove also that the metaphysical systems of India originated independently of occidental philosophies, but that nevertheless they offer most fruitful and abundant points of comparison with the systems developed around the Mediterranean sea. Whatsoever Buddhism may have achieved in earlier epochs for the improvement of the human race, it can not be contested that the spirit of quietism and mysticism prevailing in it now is antagonistic to the progressive tendencies of our western world.

"TWO INSCRIPTIONS OF LEMNOS." The mystery of the origin and affinities of the Etruscan language is not yet brought to a satisfactory solution, though all the European and many of the other Mediterranean languages have been compared. The tongue in which the two short inscriptions are composed, which were found in 1885 on the island of Lemnos, is generally called by the vague term *pelagic*; and shortly after their publication Dr. Carl Pauli declared that language to be a dialect of Etruscan. Results like these are exceedingly questionable, for we do not know the significance of any word of both languages with any degree of certainty. G. Kleinschmidt, counselor in Insterburg, eastern parts of Prussia, attempts to connect the Lemnian language with the Lettic and Lithuanian, spoken near his home, in a pamphlet just published at Insterburg,* and the probability of his results is not a bit greater or smaller than those of the linguists who connect Etruscan with Celtic, Roman, Greek or German. Kleinschmidt also believes Lemnian to be akin to Etruscan. Sure enough, the inscriptions are not Greek.

A GERMAN DOCTOR JUBILEE. The fiftieth anniversary of a professor's doctorate has always been a festive affair for German universities. Nowadays when a professor enjoys much popularity, his numerous disciples will compose short and long articles referring to the scientific branches which have been the object of his teachings; they are printed in book form for his fiftieth doctorate and then presented to him and to the public. Some of these noble memorials attain a large size, the one before us, dedicated to Prof. Rudolf von Roth, Sanscritist and Orientalist, holds 223 pages closely printed, and embodies no less than forty four contributions by men ranking high in science, as Thos. Aufrecht, B. Delbrück, Karl Geldner, Julius Jolly, Chas. R. Lanman, Thos. Noldeke, John Schmidt, E. Sievers, W. D. Whitney.

*Zwei Lemnische Inschriften. Uebersetzt und erklärt von G. Kleinschmidt, Insterburg. Press of W. Heine, 1894, 45 pp. 12. Separately printed from: Zeitschrift des Insterburger Alterthums Vereins, N. III.

NOTES ON COMPARATIVE RELIGIONS.

MR. ALFRED JARVIS has been preparing reproductions from the Assyrian sculptures of the British Museum. A few years ago we secured two beautiful statuettes of Sardanapulus and his queen, in terra cotta, and prize them very highly. Since that time Mr. Jarvis has prepared several others and now has a new one to add to the series. These reproductions are in the highest style of art and are exact imitations of the original statues in miniature. We can commend them to our readers.

MR. PETRIE is still in Egypt, continuing his explorations at Kaft, but he expects to return to London (England) by the end of April, in time to deliver his promised lectures at the Royal Institution. The library and museum founded by the late noted Egyptologist, Miss Amelia R. Edwards, and placed at University College, London, under Mr. Petrie's care, is now open.

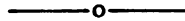
ANIMAL WORSHIP. The editor of the AMERICAN ANTIQUARIAN wrote an article a few years ago, which was read before the American Oriental Society, on animal worship and sun worship in Egypt, in which he took the ground that the earliest cult in that country must have been totemism or animal worship. This conjecture now proves true, for Mr. Amelineau calls attention to the fact that there are pictures of ceremonies at Bubastis in which the cult of animals is clearly shown. Mr. Naville also has shown from the same pictures on the Festival Hall of the same temple, that of Osorkin II of the twenty-second dynasty, that the local cults of Egypt resembled those of the Chinese, since the same reverence was paid to the "Emperor" as the "son of Heaven," and to Pharaoh, the "son of the sun."

IMMORTALITY OF THE SOUL. The inscription on the robe of a statue of the God Hadad, 800 or 900 years B. C., to the effect that the King Panammon I. adores his descendants to offer a libation, and promises that "when my name is pronounced and the formula recited, the soul of Panammon may may it drink with thee, then the soul of Panammon will drink with thee."

ANCIENT TEMPLES IN CHINA. Peking, in China, is the great city, which is composed of four cities, the central one being the home of the emperor. Here the chief temples are the Lama temple, the Confucian temple, and the temple of Heaven. The latter has an altar of white marble and represents the highest form of worship in China. The Lama temple has an altar to Buddha, seventy feet high. The leading Confucian shrine has about its walls tablets of all the literary graduates for 400 years back. In Ningpo is a Buddhist temple with ten monolithic pillars about fifteen feet high, elaborately carved with dragons, also Confucian temples covering acres of territory, in this temple there are tablets, but no altars. Tai-shan, "the great mountain," is one of five deemed sacred. On the summit, 4,000 feet high, is the leading temple, with an image representing the spirit of the mountain. This antedates Confucius, for 4,000 years ago Shun, a predecessor of Confucius, came here and sacrificed. The altar to Heaven, in Peking, is of marble, circular in shape, with successive terraces

which are respectively 210, 150, 90 feet in diameter, each nine feet high, with four staircases from each point of the compass. On the top are nine tents of blue silk, which are erected to Heaven, which is regarded as a divinity. On the middle terrace are tents to the sun, the moon, the stars, rain-clouds, thunder and wind. A little north of this altar is the temple of the Imperial expanse. Here the Emperor leads in the worship of the tablets in a grand pageant on the 21st of December every year, amid the dim light of suspended lanterns, the fragrance of incense, the peals of music, and the lurid glare of the sacrificial fires. *From Missionary Review, February, 1894.*

RELIGIONS OF CHINA. The religions of China are first, ancestor worship, introduced as early as 2235 B. C.; second, Tavisim, founded 700 B. C.; Confucianism, 600 B. C.; Buddhism, 70 A. D.; Judaism, Nestorianism, Mohammedanism. Ancestor worship is as old as the empire itself. It had its origin both in the family and in the nation. It is the key-stone of the empire and has bound the medley of tribes into one nation. Confucius was a transmitter of it. The worship of tablets was introduced 2205 B. C., in the third dynasty. Every house is a shrine in which are tablets to ancestors. Each clan has also its own particular "ancestral hall," where the tablets were deposited. "The Feast of the Tombs" is celebrated at the spring and summer solstice. The only idolatry is that contained in the tablets, as the spirits of ancestors are supposed to dwell in them.



BOOK REVIEWS.

The Character and Influence of the Fur Trade in Wisconsin. By Frederick L. Turner. 1889.

This address of Professor Turner covers the whole time from the time of the appearance of Jean Nicolet in Wisconsin to the settlement of the state by American people in 1822. It takes in the primitive aboriginal trade, sketches the Wisconsin Indians, French exploration, French posts, the English period, the Northwest Company, American influences and the Wisconsin trade via Chicago in 1821. It is an excellent summary and shows great familiarity with the history of the state.

History of Amulets, Charms and Talismans. By Michael L. Rodkinson. New York. 1893.

The fear felt by the people of the East for sorcerers urged them to seek devices for protection, hence arose the amulet and charms. Some of these were in the form of plates worn on the forehead, others represented images of gods. The Hindoos call them talismans, the Romans amulets, and the Mesopotamians teraphim. The Jews borrowed from the Babylonians during the exile a peculiar kind of charm. The Samaritan amulet is in the shape of doves' wings. The Pharisees, in the time of Christ, had charms in the shape of Biblical texts; the same custom was continued. The Hebrew letter "shin," with three heads, is adopted by the Jewish Christians as an emblem of the trinity.

The Hebrews in Egypt wore frontlets called "tolaphoth," after the two gods, "Thoth" and "Phath." The idol "Toth" had at his disposal the "tree

of life, and was associated with the idol "Path," who was the god of "light." May it not be that this was the origin of the "Urim and Thummim" worn by the priest at the time of the Exodus, these words signifying "shining" and "perfect."

The Ancient Pit Dwellers of Yezo, Japan. By KONYU HITCHCOCK. Washington, 1894.

The ancient records of the Japanese contains allusions to the Cave dwellers, which go back to 100,000 B.C. The Cave dwellers are supposed to have been before the Ainos, making three distinct races in Japan. The Pit-dwellers, however, are more recent, some of them are supposed to survive to the present time. This pamphlet speaks of the survivors and describes their present condition.

Legends of the Micmacs. By Rev. SILAS TERTIUS RAND. New York and London: Longmans, Green & Co., 1894.

The material which appears in this book was once in the hands of the editor of the AMERICAN ANTIQUARIAN, and a copy of the native myths was taken with the thought that some of them might be selected and published in this magazine (four of them were published). The editor was, however, informed that the Historical Society of Nova Scotia would publish them and so the book of manuscripts was returned. Professor Horsford afterward secured it from the heirs of the author and placed it in the library of Wellesley College, the value of the material collected by the untiring industry of the Rev. Dr. Rand being readily recognized by him.

The editor of this book is Helen L. Webster, professor of the department of Comparative Philology, who has written a sketch of the life of the author Dr. Rand, and a short essay upon the manners and customs of the Micmac Indians, as an introduction. She informs us that the author was a missionary who, for forty years, was using his talent not only in preaching to the natives, but in literary work. He was acquainted with twelve different languages and was an adept in the Micmac language, of which he published a dictionary. The list of his published works and manuscripts run up to seventy-five titles, besides this book now published, which contains 450 pages and eighty-seven different myths.

Certain Personages who Appear in a Tusayan Ceremony. By J. Walter FLEWES. Reprinted from The American Anthropologist, Vol. VII., No. 1. Washington, January, 1894.

This is a continuation of the subject discussed in the previous review. He says: "Traces of the same cult are to be found in Old Mexico and the Tusayan villages, showing a relation between Nahua and Tusayan mythologies. The masks and head-dresses, representing the symbolism of the deities, are described. Some of these, he thinks, represent alligator heads. Several dolls agree in symbolism with that of the masks. He compares these with the figures given by Sahagun. These figures represent warriors clad with the skins of animals. They are, however, different animals from those depicted in the Tusayan ceremonials, and the resemblance between the masks is not very plain, and the author is careful enough to say that there are differences that are a most fatal to the theory. He goes on to speak of the "plumed serpent" cult as prevailing among the Hopi villages, and refers to the similarity between the legends of the Aztec war god Huitzilopochtli and the Hopi war god Pukkon-hoya. Another com-

dence is found in the spider woman and the Aztec goddess, who represents the legend of the earth mother impregnated by the sun through a drop of water, a very natural story. This effort to trace connection between the Hopas and the Nahuas is commendable, and the hope is that the author will continue until more definite resemblances are discovered.

The Pa-lu-lu-kon-tu. By I. Walter Fewkes and A. M. Stephen.

Mr. Walter Fewkes is contributing to the different journals some very interesting articles upon the ceremonials of the Tusayan people, and kindred topics, giving the results of the Hemingway expedition to the public in this way. In the ceremony described in this pamphlet, sun symbols and serpent effigies figure conspicuously. One part of this ceremony is peculiar. In this, nineteen men took the seven serpent effigies and carried them to a pool and laid them down at the edge of the water, and among other ceremonies dipped the tip of the serpents' heads into the pool, and afterward carried the effigies back to the kiva and projected the heads of the serpents through the screen, on which were sun symbols, thus showing that the water cult, the serpent cult and the solar cult were all combined in the Moqui or Tusayan religion, very much as it was in the ancient Mound-builder's, though the ceremonies were different and their significance somewhat unlike.

The Native Calendar of Central America and Mexico. By D. G. Brinton, M. D. Philadelphia: American Philosophical Society. 1893.

The origin of the calendar and the cardinal points in America is a problem which has not yet been solved. Dr. D. G. Brinton has here described the calendar in use among the Nahuas and the Mayas, and has traced the origin of it to the ancient builders of the ruined cities of Copan and Palenque. The tribes which possessed this calendar belong to seven linguistic stocks, but to one great geographical area: the area occupied by the civilized races. No traces of this calendar have been found outside of this area. The date of its origin is unknown, though the Quiche astronomers had been keeping their annals by this time measurement at least 800 years before the discovery. The month of twenty days, each day numbered and named from some object, is the first thing to be noticed. The names have already been given. They are as follows: (1) sword fish or crocodile (2) wind or air, (3) night or house, (4) lizard or iguana, (5) serpent, (6) death or skull, (7) deer, (8) rabbit, (9) water, (10) dog, (11) monkey, (12) broom, (13) reed or corn-stalk, (14) tiger, (15) eagle, (16) vulture or owl, (17) strength, (18) flint knife, (19) thunder-storm, (20) flower. The months of the Maya calendar were eighteen in number, which would make 360 days, leaving five days uncounted. There was also a division of the year by thirteens, which is supposed to be the sacred year, thirteen days being counted out of the twenty. There was also a seven day period. Dr. Foisteman thinks that the solar year was divided into four groups of seven weeks each, each week being the original one of thirteen days $4 \times 13 = 7 \times 364$. Each of these groups of seven was assigned to a particular cardinal point. This division corresponds with the one which existed among the Zunis, the number 7 having come from the division of the earth into six parts, with the middle division making seven, and the number 13 having come from adding the 6 houses of the sky to those of the earth. The analogy is still more striking when we consider that the feasts and dances of the Zunis came in succession, following the cardinal points, certain seasons being given to the gods of the sky and cel-

celebrated by certain clans who carried the fetiches of these gods, the year commencing with the feasts to the gods of the north and going about to the left, making a division which resembles the groups of weeks into seven weeks and thirteen days. The Aztec cycle was made up of 52 years, arranged in 4 series of 13 each. It is noticeable also that the 20 day month was divided into 4 shorter periods of 5 days each, which were called year bearers. Thus we have a great variety of divisions of the year, one of 360 days, made up of 18 months of 20 days each; one of 360 days, made up of 3 groups of 7 weeks, each of them 13 days; also the sacred year of 260 days, made up of 20 months of 13 days each. Besides this the Mayas had lucky and unlucky days, and many other divisions which are confusing.

Dr. Brinton has given the linguistic view, and has so translated the words or names of the different days as to show that there was not only a symbolic but also a hieratic significance to them.

This hieratic significance of the Maya calendar is very remarkable, because it corresponds so closely with the significance of the Mula songs of the Oubwas, the purport of which was that the person who was initiated passed through the various stages of human experience and finally ended his crooked path in the circular lodge, where his soul was at rest, passing through the various stages of the Medawin mysteries. The song may be called the journey of the soul, since the symbol of creation was at the beginning and the picture of heaven at the end.

There was a mystic potency in the numbers, 4 creations, 13 modes of activity, 20 stages of human life, as there was among the Oubwas a mystic potency in the number 4, four parts of the circle, four stages of initiation, four sides to each lodge, four divinities to guard the entry of the lodge.

The calendar was used for divination here as in the East. The key to the ancient calendars is to be found in astrology, the day on which one was born having an effect on the future. The days of the month also served as a calendar in which feasts were celebrated. On one day they sacrificed to the divinities of the field, another to the god of the hills, another to the deceased ancestors, and another to the souls of the departed.

Was America Peopled from Polynasia. By Horatio Hale. Berlin: H. S. Hermann. 1892.

The discussion of this subject has led to a review of the pamphlet which was published in 1892. Dr. Hale takes the negative side, basing his opinion upon a study of language. In the first part of the pamphlet he dwells upon the similarity of the Iroquois and Cherokees' pronouns, and then turns to a comparison of the pronouns of all the languages of the west coast of America, and says there is no resemblance between any one of them and those of the Polynesian Islands, though he acknowledges that there is an element of reduplication in several of the languages, the Nahuatl, Pima, and Sahaptian. This reduplication, however, is seen in the Japanese and the bushmen of South Africa. He says that America was undoubtedly peopled long before Polynasia. The clear traditions of the islanders and the evidence of their language show that they reached their present abode from Southeastern Asia in modern times, and that the easternmost groups have been peopled within the Christian era; the Sandwich Islands were settled about two centuries earlier than Iceland. He bases his opinion upon M. Quatrefages' *Hommes Fossiles et Hommes Langages*. This opinion needs revising, for there are discoveries in all the islands which carry the dates farther back and indicate a succession of races, the language of the later races being very different from that of the earlier races and the monuments differing from one another. No one can properly say that we have reached the end of discovery. It may be that the connecting links will be found which will show the identity of the dolmen builders of Japan, of Peru, and the pyramid builders of Central America with those of Eastern Asia.



• PANEL IN THE NORTH ENTRANCE OF THE TEMPLE, REPRESENTING
GANAPATI. HALABEDE, INDIA.

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MIGRATIONS OF THE ALGONKINS.

BY C. STANILAND WAKE.

The traditions of the North American Indians, as to their migrations from one part of the continent to another—movements which appear to have been universal and almost constant in some part or other of the country, are usually so slight as to be of little value in themselves, although a comparison of them may sometimes lead to valuable results. The Algonkins, who formerly occupied the greater part of the United States east of the Mississippi, and who were the *red men* of the early European settlers, form one of the few exceptions to that rule. Several of their traditions giving considerable detail have been preserved. Of the two most important, one is the well-known story of a migration from beyond the River of Fish, identified by Heckewelder with the river Mississippi, and the other is that preserved in the *Walam Olum* or Lenape "Red Score," which was obtained by Mr. Rafinesque, and has been only within the last few years properly translated. Dr. Daniel G. Brinton, to whom we are indebted for this translation and for other important works relating to native history, appears to regard these two traditions as independent, and to look upon that of the *Walam Olum* as the earlier. He says, in his work on "The Lenape and their Legends," after referring to the story given by Heckewelder and the return of the Delawares at the close of the last century to their "ancient seats" on the White river, in Indiana, that, although these facts point to a migration in prehistoric times from the west towards the east, there are indications of a yet older movement from the northeast westward and northward to the upper Mississippi valley. In support of this view Dr. Brinton refers to the fact that the western Algonkin tribes, the Kickapoos, Sacs, Foxes, Ottawas and Pottawatomies, located their original home north of the river St. Lawrence.

near or below where the city of Montreal now stands. This is one of the minor Algonkin traditions, and probably it retains a knowledge of the home of the particular tribes to which it relates while they were yet one nation. On the other hand, the Mohegans had a story that their ancestors came out of the north-west. To this and to minor traditions of the Delawares, Nanticokes and Shawnees reference must be made, however, after the chief traditions have been considered.

The Lenape, or Algonkin, tradition given by Heckewelder* relates that many hundred years ago the Lenape resided in a very distant country in the western part of the American continent. For some reason not explained they determined on migrating to the eastward, and accordingly set out together in a body. After a very long journey and many nights' encampments† by the way, they at length arrived on the Nameesi Sipu, or River of Fish. Here they fell in with the Mengwe, the name given by the Lenape to the Iroquois, who had likewise emigrated from a distant country and had struck upon the river somewhat higher up. The spies which the Lenape had sent forward for the purpose of reconnoitering, had long before discovered that the country east of the river was inhabited by a very powerful nation, who had many large towns built on the great rivers flowing through the land. This people called themselves *Talligen* or *Talligewi*. Among other things told of them that they were remarkably tall and stout, that some of them were giants, being much larger in size than any of the Lenape. When the Lenape arrived on the banks of the river they sent a message to the Talligewi requesting permission to settle in their neighborhood. This was refused, but the Lenape obtained leave to pass through the country and seek a settlement further to the eastward. They accordingly began to cross the river when the Talligewi seeing that the numbers were very great, consisting of many thousands, made a furious attack on those who had crossed, threatening them all with destruction if they persisted in crossing. The Lenapes suffered great losses, and not being prepared for a conflict were convinced that the enemy was too powerful for them. The Mengwe, who had hitherto been spectators at a distance, now offered to join them on condition that after conquering the country it should be divided between them. The offer was accepted and the resolution taken by the two nations to conquer or die. Having thus united their forces the Lenape and Mengwe declared war against the Talligewi and great battles were fought, in which many warriors fell on both sides. The enemy fortified there large towns and erected fortifications, especially on large rivers and near lakes, which were successively attacked and sometimes stormed by the allies. An

*Hist. rev. Manners and Customs of the Indian Nations (14th Ed.), p. 47 et seq.

†Heckewelder states that this "night's encampment" is meant the halt of a year at one place.

engagement took place in which hundreds fell, who were afterwards buried together in holes or laid together in heaps and covered over with earth. No quarter was given, so that at last the Talligewi, finding that their destruction was inevitable if they persisted in their obstinacy, abandoned their country to the conquerors and fled down the river and never returned. The war lasted many years, during which the Lenape lost many of their warriors, as the Mengwe hung back and left the fighting to them. The conquerors divided the country between them, the Mengwe making choice of the lands in the vicinity of the great lakes and tributary streams, while the Lenape took possession of the country to the south. For a long period of time, some say many hundreds of years, the nations lived peaceably in this country and increased very fast. The most enterprising hunters and warriors crossed the great swamps or glades, that is, says Heckewelder, crossed the mountains and pressed on until they reached Chesapeake Bay, afterwards making their way to the Delaware River, and finally to the Hudson River. They thought this country was destined for them by the Great Spirit and they gradually emigrated there, settling on the four great rivers, the Delaware, the Hudson, the Susquehannah, the Potomac. The tradition said, however, that many of the nation remained behind in order to aid and assist the great body of the people which had not crossed the Nameesi Sipi, but had retreated into the interior of the country on the other side on hearing the reception those who crossed the river had received, and probably thinking they had all been killed. The nation finally became divided into three separate bodies. The largest body, which they supposed to have been one-half the whole, settled on the Atlantic, and of the other half the stronger body remained beyond the Nameesi Sipi, the remainder being on the east side of the river. The Lenape who settled on the Atlantic afterwards became divided into three tribes, the Turtle, the Turkey and the Wolf. The Wolf tribe, known as *Mensi*, lived at the back of the two others and formed a kind of bulwark for their protection and keeping watch on the Mengwe. Other tribes were formed from them, and the *Mohicani* (Mohicans), who became a detached people by intermarriage, mixing two dialects together and forming a dialect of their own, crossed the Hudson River and spread over all the country forming the present eastern states. They still continued, however, like the other tribes, to call the Delawares "grandfather." Meanwhile the Mengwe had increased in number and spread from the great lakes along the River St. Lawrence, so that they became neighbors on the north side of the Lenape. They afterwards began to endeavor to weaken the Lenape by creating quarrels between the different tribes, clandestinely killing people. Once they murdered some Cherokees and left a Lenape club near the dead, and this led to a most bloody war between the Lenape

and Cherokees. The treachery of the Mengwe was at length discovered and the Lenape determined to take an exemplary revenge by extirpating the whole of the deceitful race. The Mengwe were also known to eat human flesh, to kill men for the purpose of devouring them;* and the Lenape therefore considered them as not rational beings, "but as a mixture of the human and brute kinds." War was carried on between them, leading to the formation of the Mengwe confederacy of the Five Nations, against which the Lenape claimed to have been successful until the arrival of the French in Canada, when the Mengwe, fearing they would be crushed between two enemies, induced the Lenape by deceit to accept the position of "women" or "peace makers."

Turning now to the Walam Olum, we read, according to Dr. Brinton's reconstruction of the ancient history of the Lenape there given, that at some remote period their ancestors dwelt far to the northeast, on tide water, probably at Labrador. They journeyed south and west until they reached a broad water, full of islands and abounding in fish, perhaps the St. Lawrence, about the Thousand Isles. They crossed and dwelt for some generations in the pine and hemlock regions of New York; fighting more or less with the Snake people and the Talega, agricultural nations, living in stationary villages to the southeast of them, in the area of Ohio and Indiana. They drove out the former, but the latter remained on the upper Ohio and its branches. The Lenape, now settled on the streams in Indiana, wished to remove to the east to join the Mohegans and others of their kin, who had moved there directly from New York. They therefore united with the Hurons (Talawatans) to drive out the Talages (Tsalaki, Cherokees) from the upper Ohio. This they only succeeded in accomplishing finally in the historic period. But they did leave the road and reached the Delaware valley, though never forgetting nor giving up their claims to the western territories.†

As already mentioned, Dr. Brinton regards this tradition as older than that preserved by Heckewelder, and sees a confirmation of it in the tradition of the western Algonkins that their common ancestors lived north of the St. Lawrence, near the site of Montreal. It appears to be confirmed by the reference to the Hurons, a nation with whom the Lenapes were always friendly, the former being, in fact, at the head of the Algonkin confederacy against the eastern Iroquois, who settled in New York State from beyond the St. Lawrence. Moreover, the Hurons claimed the country between lake Erie and the river Ohio, and their right was never disputed except by the eastern Iroquois.‡ According to the tradition of this people, their an-

*This charge appears to have been well founded. See Heckewelder, p. 4.

†The Lenape, in their legends, claim to have

364 *Ann. Arch. Anth. Vol. II, p. 50.*

cestors lived north of the St. Lawrence, in much the same locality as the western Algonkins claimed to have left, that is, near the site of Montreal. The late Mr. Lewis H. Morgan, in his "League of the Iroquois," relates the tradition which says, that "prior to the occupation of New York, the Iroquois resided in the vicinity of Montreal, upon the northern bank of the St. Lawrence, where they lived in subjection to the Adirondacks, a branch of the Algonkin race, then in possession of the whole country north of that river. At that time the Iroquois were but one nation, and few in number. From the Adirondacks they learned the art of husbandry, and while associated with them, they became inured to the hardship of the chase. After they had multiplied in numbers and improved in experience they made an attempt to secure the independent possession of the country they occupied, but having been in the struggle overpowered and vanquished by the Adirondacks, they were compelled to retire from the country to escape extermination." The Iroquois ascended the St. Lawrence to Lake Ontario as far as the Oswego river, by which they entered the central parts of what is now New York State, where they afterwards became the five or six nations of history. Probably the Huron-Iroquois were already established on the peninsula formed by Lake Huron to the west and Lakes Ontario and Erie to the east. It is deserving of notice that neither this tradition nor those of the Lenape given above make any reference to prior settlers in the country south of the St. Lawrence, and probably the Algonkins and the Iroquois were its first inhabitants. There is so much similarity between the two Lenape traditions that, notwithstanding Dr. Brinton's opinion to the contrary and certain differences of detail, I am inclined to consider them as referring to the same events. This can be shown only by a more particular examination of the contents of the *Walam Olum* and a comparison of its statements with the tradition of Heckewelder. According to the former, the primitive abode of the Lenape was in the frozen north, but where there were many deer and many buffaloes, which would probably answer better to the northwest than to the northeast, as supposed by Dr. Brinton. When the migration commenced, induced perhaps by an unprecedented severity of the climate,* their footsteps were directed towards the *east*—"to the Snake-land to the last they went forth." The men of the Bald Eagle clan, from the north, and those of the White Wolf clan, from the south, who dwelt along the sea, rich in fish and mussels, with the men of the Beaver clan, go forth willingly; but the men of the Turtle clan,† who were the best of the Lenape and lived at the west, come with hesitation," as they did not wish to leave their ancient

*Such as is said to have partly led to the abandonment of Greenland by the Northmen.

†Probably the M'crogans, whose Turtle clan had three divisions, and who became separated from the other Algonkins, according to Heckewelder's tradition, through intermarriage.

home. To reach Snake-land they had to cross the frozen sea, the great tidal sea, the mussel-bearing sea, evidently the same sea as that on the border of which the Eagle and Wolf clans had remained, and therefore not the St. Lawrence. They first reached the land of spruce pines, where "to the east was fish-land, towards the lakes was buffalo-land," while in the pine country the Lenape would seem to have been near Snake-land and under their fifth head chief, the Seizer, they made war on its inhabitants and all were killed, "the robbers, the snakes, the evil men, the stone men." The Lenape possessed the country, and dwelt in peace under ten successive chiefs, but then there was much warfare south and east, and afterwards some of the people, being angry at the interference of their chief, went off secretly to the east. After a succession of twenty more chiefs, there was again war with the Snakes, probably another tribe of the people whom the Lenape are said to have destroyed many years previously. These Snakes would seem to have lived to the south of the Lenape, as a little before the Walam Olum says there was war north and south, and afterwards that the chief "Strong-good, once fought against the Northerners." This was followed by war with the Tawa people.* The constant fighting appears to have disheartened the Lenape, and by the advice of their chief, "Opomemlike," they determined to go "to the east, to the sunrise." Some of them, "the lazy ones," however, decided to remain, and they separated at the Nemassippi or Fish river, where the chief part of the nation had continued to have their headquarters.

Up to this period there is little in common between the two legends, but if we take the Nemassippi to be the same as the Nameesi Sipu, which Heckewelder translates the River of Fish, they here come together. There are, however, some earlier points of agreement. In both traditions the first journeying is towards the east. The dwelling in the land of spruce pines and the country of the snakes answers to the "many nights encampments" of the other legend, and it appears from Heckewelder's tradition that a body of the Lenape remained near the River of Fish after the conquest of the Talligewi to aid those of their nation who continued on the west of the river, in like manner as according to the Walam Olum, the "lazy ones" remained near the Fish River. The country to the east was, according to both traditions, occupied by the Talligewi or Cherokees, and the Lenape in neither case could overcome this people without assistance from the Iroquois, in the one tradition called *Mengwe*, the usual Algonkin name for that people, and in the other *Tul-amatan*, the Lenape name for the Hurons. The Talligewi are defeated and all of them go south, the Lenape taking possession of the country to the south of the lakes, and the Hurons that to

the north, according to the Walam Olum; while the other tradition says that the Mengwe chose the lands in the vicinity of the great lakes and their subsidiary streams, and the Lenapes took possession of the country to the south. These statements may really mean the same thing, as the Huron country was north of the lakes, and the traditions of the Eastern Iroquois fixed their original seat on the River Ottawa.

The great body of the Lenape remained in the country of the Talligewi for a considerable period according to Heckewelder, and it is evident that this is supposed also by the Walam Olum. It is true that "many departed, the Nanticokes and the Shawnees going to the south," which agrees with the tradition referred to by Gallatin,* which says that the Shawnees migrated from Ohio to the south and settled for a time among the Creeks, although it places them first in Pennsylvania. The chief, called "the Seer," went to the west, to the southwest and to the western villages, showing the evidence of Lenape settlements in that direction. The Walam Olum describes another period of much war "with the Tawa people, the Stone people† and the northern people." This was probably the cause of the further migration that was made to the east, and it was brought about in the same manner according to both traditions. Heckewelder says that the most enterprising hunters crossed the great swamps or mountain glades and pressed on until they reached Chesapeake Bay; while in the Walam Olum it is said, "Look-about went to the Talega mountains (that is, the Alleghany mountains); East Villager went east of Talega; a great and wide land was the east land, a land without snakes, a rich and pleasant land." Then, "all the hunters made wampum again on the great sea." So, in Heckewelder's story we read that the Lenape considered the eastern country destined for them by the Great Spirit, and they emigrated there, at first in small bodies, finally settling on the four great rivers, the Delaware, the Hudson, the Susquehannah and the Potomac. As we have seen, however, many of the Lenape remained behind to be near their brethren in the west. There are still other points of agreement between the two traditions. The Walam Olum says, "Good Fighter was chief and went to the north; the Mengwe, the Lynnes, all trembled." Heckewelder's tradition states that when the Lenape settled on the Atlantic they divided into three tribes, and that the Wolf tribe, or Minsi, lived at the back of the two others and formed a bulwark for them, keeping watch on the Mengwe. This people managed, however, to embroil the Lenape in a

*Arch. Am., i, 66.

†Dr. Brant mentions as the former evidence of the *Assiniboin*, or "Stone people," a Dakota tribe, as called *Assiniboin*, or Stone Indians, from their custom of boiling food by means of hot stones. (*Rep. Smith Inst.*, 1876, Pt. 1, p. 121.) The Assiniboin is referred to by the Rev. Father Lacombe as having been expelled by the Algonkin Creeks from a portion of the country between the Red River and the Rocky Mountains. (Quoted by Mr. Horatio Hale in the *American Antiquarian*, Vol. 5, p. 113.)

bloody war with the Cherokees, and in the Walam Olum it is said, "Well-Prised fought in the land of the Talega and Koweta." This was after the appearance of white men on the Eastern Sea, and Heckewelder's story ends soon after the arrival of the French in Canada.

The agreement between the tradition preserved by Heckewelder and that of the Walam Olum is almost perfect after the departure from the Fish River, and by the identification of the Nameesi Sipu of the former with the River St. Lawrence instead of the Mississippi, the other portions of the tradition could be made consistent. Dr. Brinton identifies the frozen ocean crossed by the Lenape at the early stage of their migration with the St. Lawrence about the Thousand Isles, but it was more probably the lower part of Hudson's Bay. This was on the route from the northwest to the southeast, which the Lenape appear to have taken. In that case the region of spruce pines may have been north rather than south of the St. Lawrence, a localization which would perhaps agree better with the statement that the "east was the fish land, toward the lakes was the buffalo land;" although there is no reason why the Lenape should not have crossed the river and gradually settled in New York state, which Dr. Brinton identifies with the country of spruce pines. The episode of the war with the Snakes, which is known only to the Walam Olum, is located by him south of the St. Lawrence, and the Lenape in following the retreating Snakes would find their way into the region to the southwest where the pines appear in the other tradition after crossing the Nameesi Sipu; for which reason perhaps Heckewelder supposed it to be the Mississippi. After reaching this point the two traditions are practically the same.

Another account, which is not inconsistent with that of the Walam Olum, is given by the Indian Cusick of the great war. He states that the northern nations who formed a confederacy possessed the bank of the great lakes, where there were many beavers, and that their hunters were often opposed by big snakes. He then refers to the existence of a great empire in the southern part of the North American continent, who built many forts and almost penetrated to the Erie. He adds that the people of the north, feeling that they would soon be deprived of the country to the south of the lakes, attacked the foreigners and after a bloody war lasting about a hundred years conquered them and destroyed their towns and forts. He ascribes their success to their use of bows and arrows and their greater endurance of hardships. Subsequently discord broke out among the northern nations, who fought and destroyed each other.

We have seen that, according to the Walam Olum, the Lenape fought in the land of the "Talega and Koweta" so late as the historical period. There appears to be no doubt that the Talega,

or Tallegewi, were Cherokees.* The remembrance of this nation having once lived in the Ohio valley was kept alive by a Cherokee tradition, which was repeated annually in public by their official orators at the festival of the green corn dance. The Cherokees claimed to have been the constructors of the Grave Creek and other earthworks there. Dr. Brinton thinks this was about the fourteenth century, and he states that "they were driven southwards by their warlike neighbours, locating their council fire first near Monticello, Va., and their main body reaching East Tennessee about the close of the fifteenth century. As late as 1730 some of them continued to live east of the Alleghanies, while, on the other hand, it is evident from the proper names preserved by the chroniclers of DeSoto's expedition (1542) that at that period others held the mountains of North Georgia. To the Delawares they remained Kit-tawa-wi, inhabitants of the great wilderness of Southern Ohio and Kentucky." In 1768, after the close of the French-Indian war, the Cherokees "sought and effected a renewal of their peaceful relations with the Delawares, and in 1779 they sent a deputation of 'condolence' to their 'grandfather', the Lenape, on the death of the head chief White Eyes."† The Cherokees must formerly have occupied the country as high north as Lake Erie, for Heckewelder refers to fortifications built by them about twenty miles east of Detroit and others on the Huron River, six or eight miles from Lake Erie. Outside of the fortifications his native guide pointed out a number of large mounds where were said to be buried hundreds of the Talligewi, who were slain in fights spoken of by the tradition.

The Walam Olum states that the Lenape encountered the Snakes before they reached the Tallegewi, but says they were "weak and hid themselves in the swamps." Dr. Brinton remarks that the Tallike (Cherokee) are not mentioned in the Walam Olum as the Mound-Builders, and that "the inference either is that the Snake people, *Akowini* or *Akonapi*, dwelt in the valleys north of the Ohio river, in the corner of western Ohio and Indiana, where the most important earthworks are found, and singularly enough none more remarkable than the immense effigy of the serpent in Adams County, which winds its gigantic coil over seven hundred feet in length on the summit of a bold bluff overlooking Brush Creek; Who, then, were the Snake people?

* It seems to be the opinion of Mr. Horatio Hale, although hardly consistent with his conclusion, that the language of the Cherokee nation is in grammar mainly Huron-Iroquois. (*Amer. Antiq.*, Vol. 3, p. 114, *et seq.*) unless, indeed, the latter tribes were themselves allied to the Tallegewi. The connection between the Cherokees and Iroquois is confirmed by Mr. A. S. Gatschet, the distinguished linguist of the American Bureau of Ethnology in the second volume of his important work hereafter referred to, and we may perhaps regard the Iroquois as descendants of Cherokees who had made their way across the St. Lawrence, and who probably became mixed with the Algonkians of that region.

† The Lenape and their legends, p. 17, *et seq.* Gallatin mentions that the Delawares called the Cherokees "uncle." (*Amer. Antiq.*, 1891.) If the relationship between the Iroquois and the Cherokees be established, the former may have been Cherokees who reached the country north of the St. Lawrence, either as settlers or as prisoners to the Algonkians, who already occupied it.

†*Op. cit.* p. 17.

fathers arrived from the west and possessed themselves of the country after vanquishing the nations of red men who then inhabited it, who themselves found these mounds when they took possession of the country, the former possessors delivered the same story concerning them." And yet Bartram shows that the mounds and the terraces and the enclosures which were near them were used by the tribes who then occupied the country. If they were not erected, therefore, by the ancestors of the Cherokees they must be referred to a people of similar habits and probably belonging to the same stock. Although the Walam Olum does not describe the Talega (Cherokees) as mound-builders they are said to dwell in strong towns, and the pictographs referring to them represent circular mounds such as the traveler mentions as being used all over the country and "differing from the ancient fortifications or entrenched camps" found in other parts of the United States; which, however, the Cherokees (Talligewi) are said by Heckewelder's tradition to have erected when their country was invaded by the Lenape.

In adopting Mr. Horatio Hale's conclusion* that the course of Indian migration has been from the Atlantic coast westward and southward Dr. Brinton remarks, "we know that both Chipeways and Crees have been steadily pressing westward since the country was first explored, driving before them the Blackfeet and Dakotas." He gives reasons for believing the Cree language to be the nearest representative we possess of the primitive Algonkin language, and, he adds, "unless strong grounds to the contrary are advanced it is proper to assume that the purest dialect is found nearest the primitive home of the stock." On the other hand the language of the Blackfeet, who with the Cheyenne form the most western branch of the Algonkins, having been driven by the Sioux first across the Mississippi and at a later date across the Missouri,† is the most corrupt and altered of the Algonkin dialects. It seems to me, however, that these facts are capable of a different interpretation. The Crees live beyond Lake Superior and extend to a considerable distance to the northwest of Lake Winnipeg, "towards and even through a good part of the Rocky Mountains."‡ Such being the case, the Algonkin-Lenape tradition of their western origin is consistent with the Crees representing the primitive stock from which they issued.

This again is not inconsistent with the original seat of that stock having been west of Hudson's Bay, where, as pointed out by Gallatin, the Algonkins have given name to the river Missi-

*Indian migration as evidenced by language. *The American Antiquarian*, Vol. 3, 1882, *Ref. Smith Inst.* 1879, Pt. II, p. 11.

†Ibid., p. 119. This statement must be read subject to the fact mentioned by the Rev. Father Lacombe quoted by Mr. Horatio Hale in *The American Antiquarian*, Vol. 3, p. 119, that this is only in recent times that the Crees have found their way west of the Red River. Such being the case their origin would be from the north rather than west, that is, northwest of Lake Superior.

nipi. This conclusion agrees with the curious story related by the French traveler, Du Pratz, of the journey beyond the Rocky Mountains, to the northwest coast, undertaken by a southern Indian in search of the ancestral home of the Red Men of the north, and which is accepted as genuine by the French anthropologist, M. de Quatrefages.* Nor is that conclusion inconsistent with the tradition of the Shawnees, referred to by Dr. Brinton, as confirming the northeastern origin ascribed by him to the Lenape. According to that tradition, the Shawnees, at some indefinite remote past, "had arrived at the mainland after crossing a wide water. Their ancestors succeeded in this by their great control of magic arts, their occult power enabling them to walk on the water as if it had been land." This legend is said to have been repeated annually, and a yearly sacrifice offered up in memory of their safe arrival.† This would hardly be required by a passage across the St. Lawrence, and the account evidently refers to such an incident as that related in the Walam Olum, of crossing a frozen sea. The migration myth of the Mohegans may refer to the same event. It states that "their early forefathers came out of the *northwest*, forsaking a tide-water country, and crossing over a great watery tract, called Akhkok-pek, 'Snake-water, or water where snakes are abounding.' They crossed many streams, but none in which the water ebbed and flowed, until they reached the Hudson. This, they said one to another, is like the tidal ocean of our nativity. Therefore they agreed to kindle a fire there and hang a kettle, whereof they and their children after them might dip out their daily refreshments."<‡

A tradition of the Delawares, first heard by Europeans in 1767, stated that 370 years previously they migrated from a kingdom far to the west, which they left owing to warfare between the two sons of a deceased monarch. It adds that only nine-tenths of the people migrated eastward, the remaining tenth being left on the other side of the river. Dr. Brinton, after referring to this story and stating that the Nanticokes had a tradition of the same nature, says "a curious addition to the story is mentioned by Loskiel. The number of the mythical ancestors of their race who thus were left on the shore of the great water was seven. This at once recalls the seven caves (Chiconoztoc) or primitive stripes of the Mexican tribes, the seven clans (vuk amog) of the Cakchiquels, the seven ancestors of the Quechuas, etc., and strongly intimates that there must be some common national occurrence to give rise to this wide-spread legend." These traditions throw no light on the date when the ancestors of the race quitted their primitive home, but possibly it may fix it at

*The Huron, p. 107.
 †The Lenape and their Legends, p. 10.
 ‡The Lenape, p. 10.

the time of the migration of the Algonkins eastward, in the year 1397. The reference to the seven mythical ancestors may perhaps point to their connection with the Dakotan tribes more directly than with the Mexican stock. A comparison of the totems of the Algonkins and Dakotas confirms such a connection, and as a fact the Sioux and Dakota proper are divided into seven sub-tribes and call themselves *Ochante Shahonne*, or "Seven Fires." The allied Crow Indians claim to be the original inhabitants of the whole Rocky Mountain range, and the position of the Athabascans and the Crees renders it probable that the Algonkins originated in the far northwest, near the same range, and gradually spread east to the great inland sea of Hudson's Bay. From the language of the *Walam Olum*, we may infer that a faction of the western people did not join in the migration, but that otherwise it was general in a southeasterly direction, across the southern end of Hudson's Bay to the St. Lawrence, not far from the Great Lakes. It is remarkable that not only does the migration legend of the Tinné of British North America point to their having come from a region of extreme cold, but the legends of the Maya-Quiché speak of their four ancestors, before they journeyed to the Seven Caves, being at a place where it was very cold and where their god is said to have given them fire.*

* Bancroft, "Native Races," Vol. III, p. 49, seq.

THE SALMON WIFE—A KWAKIUTL LEGEND.

BY GARDNER C. TEALL.

They were all seated around the fire that cold night, each with his blanket drawn closely about him, for the wind found its way through every chink in the house. Although the fire of pine-knots blazed courageously, it was cold—bitterly cold. These men squatted around the fire were Indians, and this their native home in British Columbia. The sea before their door was not frozen; it was too rough. The firs behind the house moaned and sighed; the poles before creaked and groaned. A storm raged fearfully. Within all was silent. Then might have been heard the weird, monotonous chant of the Storm song; but it soon blended with its very echo.

Now spoke Quahu-Skaga, the village medicine-man, saying: "My children, do you know why there is sorrow in this world? If you have not heard my tale, listen:

A long, long time ago—even before the time of our forefathers—there lived a great and mighty chief. He was the greatest of the great. None have been as he. In those days everything was good, and he was best. It was he who brought the fire from the skies, and kept it tight in a great copper chest. Now that bird which we call the Crow was very anxious to obtain possession of this fire, and as the Great Chief guarded it closely it seemed next to impossible to steal it. However, by his cunning, the Crow did manage to get possession of some of the fire. This he carried in his mouth to his home, and returned to carry off the remainder. But the Crow was caught in the act by the Great Chief, who shut him up in a house wherein a pitch fire was burning. The Great Chief stopped up all the cracks in the house with mud, so that none of the dense pitch smoke could escape. So it was that the Crow—until then spotlessly white—became as black as the night. How it was that the Crow escaped we have never been told, but this he did, and the Great Chief was not able to catch him again. From that time until this there has been much wickedness in the world. Damscum, as the crow was henceforward called, became every day more wicked. From his examples all evils have sprung. Not long after the escape of Damscum, he and the Cormorant became fast friends. They were together much of the time, but the Cormorant revealed a great many of Damscum's secrets, and as he was getting to be very powerful, Damscum thought of a plan whereby he could

rid himself of the now troublesome Cormorant, and at the same time prevent the Cormorant from further revealing his secrets. So, one day, he called the Cormorant to him, saying, 'Friend, show me thy tongue.' The Cormorant did as he was bidden and ran his tongue out. Thereupon Damscum bit it off and said to him, 'Go thou quickly from my sight, O hated one. Nevermore shall a cormorant have a tongue whereby to tell his master's business.' Not long after the Cormorant had gone away Damscum went to the Tree-Gum and said, 'Gum, come thou, go with me and be my friend.' After several times refusing, the Gum at last consented to the arrangement, and thus he became Damscum's second companion. But this friendship, like that with the Cormorant, was of short duration. The jealous Damscum now accused the Gum of playing him false, and he stuck the Gum on a fir-tree, before which he had placed some of the fire that he had stolen. Seating himself near by, Damscum cried out 'Gum!' and the Gum answered 'What?' The Crow repeated his cry several times, and as often the Gum answered 'What?' At last the fire became so hot that the Gum could not speak, for he was melting. Damscum was overjoyed when he perceived this, and as he was walking away he called back saying, 'Gum, from now on canst thou tell no tales, but thou shalt drip, and drip, and drip.' As you will have seen, Damscum proved to be a rather treacherous companion, but the next time he took a servant instead of taking a companion along with him, for, said he, 'I cannot trust. Who goes with me must serve both me and mine.' He did not put much trust in the Jackdaw, but he chose him for his servant. He did not fear him though, for he had revealed to him no secrets and the Jackdaw was as a slave.

During one of his restless wanderings, Damscum met and fell in love with a beautiful girl. He thought her to be a daughter of his old enemy, the Great Chief. Nevertheless, he resolved to marry her, for, thought he, 'If the Old Chief dies, I, having married his daughter, shall inherit his greatness and power.' Not long after this Damscum and the maiden were married. Now, although the supposed daughter of the Great Chief had married Damscum, she really loved his servant, the Jackdaw. One day, while Damscum was absent, and she had been talking to the Jackdaw, she put her finger first in her mouth, and then in a tub of water standing by. The Jackdaw looked into the water and was surprised to find that a new fish was swimming therein. This he named a Salmon. The Jackdaw and the wife then took the fish from the water, cleaned, and as was their custom, ate it raw. When they were done eating they gathered up all the bones, as they thought, and threw them into the sea. These bones formed themselves into another Salmon. Soon, however, the fish came to the top of the water to get a gill-bone which, in their hurry, they had dropped on the floor of the hut

Just as the wife had thrown the missing bone to the fish Damscum approached. Going up to his wife he said to her, 'Laugh,' and as she laughed, Damscum caught sight of particles of fish sticking to her teeth, and he instantly knew what she had been doing. After much persuasion Damscum got his wife to make a number of Salmon for himself. These he dried, to make them pink, and hung them up on long poles in his house for future use. One day as he was passing under the poles, his long hair became entangled with the suspended fish. This made Damscum very angry and he threw the fish into the sea. These became transformed into live fish and swam quickly away. Now this fit of anger in Damscum made the Jackdaw laugh, and Damscum was so angered thereby that he killed his servant on the spot. The wife, who was standing by, felt so bad when she saw that the one she loved had been killed, that she jumped into the sea and, turning into a fish—for she was really the Salmon Queen—swam away. She was never heard of again, but is probably living in the sea to this day. That is all."

"Is it true?" asked one.

"I have said it," answered Quahu-Skaga.



FEMALE STATUE FROM COPAN.



BACK OF FEMALE STATUE.

CULTURE HEROES AND DEIFIED KINGS.

BY STEPHEN D. PEET.

One of the most interesting subjects connected with American archaeology is the one which relates to "Culture Heroes and Deified Kings." Much has been said about the "Heroes," and many theories have been adopted to account for their origin and history, but as to the kings little has been written, for there seems to be but little known. That there were different classes of divinities which were worshiped by the native races will be acknowledged. Some of them were the personifications of nature powers; others semi-historic human divinities; still others actual historic characters or potentates. It remains, however, for the archaeologists to identify these, and make known the localities where they were worshiped. This is the task which we have set before us in this paper. We shall first take the testimony of the historians and see what they say in reference to the "Culture Heroes." We shall next take the testimony of the monuments, and from them endeavor to trace the relation of the "Culture Heroes" to the "nature powers." Lastly, we shall speak of the various statues and images, which have perpetuated the record of the "Deified Kings." In all of these departments we shall seek aid from the study of the myths and symbols. Our object will be to distinguish between the three classes of symbols, those which represent the "nature powers," those which relate to the "Culture Heroes," and those which show that royalty was represented. There may be a difficulty about separating the first two classes, for the nature powers were often personified, and the element of personality was hidden behind the symbols; but this is not the case with the third class, for the portraits and decorations of the kings are apparent. We shall give attention especially to the symbols of the Mayas, for it is among them that the statues of deified kings are to be found; but we shall also take the symbols of the other civilized race so-called, such as the Nahuas, by way of comparison. Our chief inquiry will be whether the "Culture Heroes" of these races can be identified by their monuments.

I. First let us take the testimony of history.

1. The two nations, the Nahuas and Mayas, were for a long time associated together, and borrowed from one another customs and habits, even symbols and mythologies, though the Mayas were much the older, and their culture was really more advanced.

Their history may be divided into several epochs or periods, the first period being that of the Maya supremacy, which began before the Christian era. Bancroft says, "It is not likely that the Maya empire in its integrity continued later than the fourth century, though the epoch of its highest power preceded, rather than followed, the Christian era." The second was the Toltec period which commenced about 647 A. D.; the third, the Chicmec, commenced with the twelfth century, and the fourth was the Aztec period, commencing 1363 A. D. It was during the Toltec period that that mysterious person, called Quetzatlicatl, appeared and introduced the various arts of civilization, and an elaborate system of religion. He was the great "Culture Hero" of the Nahuas, and the pontiff king of Tulan. He effected many religious innovations, and was distinguished for his opposition to human sacrifice. Temples to his honor were erected at Cholula and in all parts of Anahuac. His reign was a short one. He retired before the machinations of his enemy, Tezcatlipoca. Who he was and where he came from is altogether unknown, yet such was his character that he impressed himself, not only upon the Toltecs and the Nahuas, but also upon the entire Maya race, for there are several culture heroes mentioned in the history of all the tribes of Mexico and Central America, though under the different names of Votan, Cuculkan, Gucumatz, and Quetzatlicatl. Some writers have explained this fact by advancing the theory that they were only personifications of the great sun divinity, and have compared them to the various culture heroes which have appeared in the early history of all nations. Quetzatlicatl is represented by the Aztec historians as a white man, wearing a beard and enveloped in a garment covered with crosses, and resembling an European monk or priest. Some have accounted for him by the supposition that two personages have been confounded, one the early "culture hero," an entirely mythical character, another the pontiff king of Tulan, who assumed dominion about 873. His reign in Cholula lasted about ten years. Others have imagined that some visitor from a foreign shore had appeared and introduced great reformatons, and this gave rise to the traditions.

Quetzatlicatl was the great divinity of the Toltecs and represented the more gentle and humane religious tendencies which prevailed among them, and which were supplanted by the cruel and warlike religion of the Aztecs. He was the feathered serpent or serpent bird. We recognize in his name, and in the legends concerning him, the god of the wind or air, which was known in Central America under the varying names of Cuculkan (bird serpent), Hurakan (hurricane), Gucumatz (feathered serpent), Votan (serpent). He was always a serpent, either feathered or flying.* He reminds us of the beneficent gods of the ancient

* See also N. S. P. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

world, Dios or Jupiter Pluvius, of the Greeks; Ormuzd,* of the Persians; Varuna, of the Hindoos; Tien, of China, who were embodiments of good.

In the Maya traditions the person whose name appears first is Zamna, a son of the chief deity, who taught the people the hieroglyphic alphabet and gave a name to each locality of Yucatan. He played the same role here that Votan did in Chiapas. The same events are recorded in the Yucatec, Tzendal, Quiche and the Toltec traditions. According to a Maya tradition, this culture hero came to America and apportioned the land to the people. He came by sea from the east. He built a great city, the city of the serpents, and became a law-giver and civilizer, the introducer of the Maya culture, and after his appearance was worshiped as a god.

Votan was also a divinity among the Mayas. He corresponded in his history to Quetzatlcoatl of the Mexicans. Bancroft makes him the first historian of his people. He wrote a book on the origin of the race, though at times he seems to be a mythic creation, a sort of mediator between man and God, and at times a sort of legislator. He portioned out the land. He founded Palenque, the future metropolis of a mighty kingdom. He was supposed to be the founder of civilization. He came by sea from the east. He made four mysterious visits. Still he was not the first to appear, for American civilization was already in existence. After his death he was deified, and may be regarded as one of the deified kings. It was in the days of this ancient Maya glory, when Votan and his successors reigned, that the kings played roles, to a great extent mythical, combining the powers of legislators, teachers, high priests and monarchs. Then came a famous personage, bearing a striking resemblance in his traditionary career to the Quetzatlcoatl of the Nahuas, called Cuculkan, whom, some think, was an historical personage, and others imagine to be only a personification of the sun or some of the nature powers.†

There were two distinct cycles of myths in Yucatan. The earlier related to Itzamna, the later referred to Cuculkan. It was a tradition among the natives that the most ancient emigration was from the east across the ocean, the later was from the west. The former was called the great arrival, the other the less arrival. Itzamna was the guide, instructor and civilizer. He was the first priest, and taught them the proper rites to please their gods. He invented the characters or letters with which the Mayas wrote their numerous books. He devised their calendar. As city-builder and king, his history is associated with the noble edifices of Itzamal.‡ There was a temple at Itzamal consecrated to him as the eye of the day, the bird of fire, *Kin-ich-kak-mo*—*Kin*, the

*See Lockyer's *Dawn of Astronomy*, page 6.

†Bancroft, Vol. II, p. 633.

‡Charnay speaks of finding a gigantic face at the foot of the pyramid at Itzamal.

sun; *ich*, the eye; *kak*, fire; *mo*, sacred bird, the brilliant plumaged guacamaya, the red macay. This was the word adopted as the name of the ruler of Chichen-Itza. Some have derived the name Itzamna from *zam*, early; *yam*, first; *Zamalyam*, the dawn, the aurora, the dew, the son of the morning. The symbol which represented this divinity and culture hero was the sun's disk, which shot forth its scorching rays.* There was a temple sacred to him, to which the people resorted, and at high noon spread a sacrifice upon the altar. The moment the sun reached the zenith, a bird of brilliant plumage, which was nothing less than a fiery flame, shot from the sun, descended and consumed the offering in the sight of all. His shrine was extremely popular, and to it pilgrimages were made from such remote regions as Tabasco, Guatemala and Chiapas. Four paved roads were constructed to this shrine, from the north, south, east and west, straight to the quarters of the four winds.† Associated with Itzamna were the four Bacabs, or gods of the winds, each identified with a particular color and the cardinal points; the first, that of the south, yellow, the east, red, the north, white; and the west, black. The winds and rains from these directions were under the charge of these gods.

Bishop Landa says they represented four brothers, who supported the four corners of the heavens, who blew the winds from the four cardinal points, and presided over the four dominical signs of the calendar. Each year in the calendar was supposed to be under the influence of one of these brothers. They were the sons of Ich-chal, the goddess of the rain-bow, who was the wife of the light god and mother of the rain gods, since the rainbow is never seen but during a shower, and while the sun is shining. These four divinities were called "chaacs," giants. They were gods of fertility; they watered the crops; they presided over streams and wells; they were divinities whose might was manifested in the thunder. They were represented as enormous giants, standing like pillars at the four corners of the earth, and supporting the heavens. They were worshiped under the symbol of the cross, the four arms of which represented the four cardinal points. This was regarded as a tree, and in the Maya tongue was called the "tree of life." The celebrated cross at Palenque‡ is one of its representations. There was another such cross in a temple on the island of Cozumal. This was a symbol of the four rain gods, the Bacabs. In periods of drought, offerings were made to it of birds, and it was sprinkled with water. The festival to the gods of the harvest occurred in the early spring. In this festival Itzamna was worshiped as the leader of the Bacabs, and an important rite called the "extinction of the fire"

*The disk of the sun was represented by a bird of brilliant plumage, the guacamaya, the red macay. See the description of the sun in the *Popul Vuh*, p. 100. The *Popul Vuh* is the most important of the Maya books. It is a collection of the traditions of the Maya people, and is the most important source of information regarding their history and customs. It is written in the Maya language, and is the most important source of information regarding their history and customs. It is written in the Maya language, and is the most important source of information regarding their history and customs.

was performed.* The Bacabs were supposed to blow the winds from the four corners of the earth through wind instruments or trumpets.† It was in the second period of the Mayas that Cuculkan appeared, and was the culture hero. This period was later than that of Itzamna, though its date is unknown and the symbols were different. The natives affirm that there were twenty men, the chief of whom was Cuculkan, that they wore long robes and sandals on their feet, had long beards, and their heads were bare. Cuculkan was the tutelar divinity of Yucatan, as Votan was of Chiapas, and Quetzatlcoatl was of Cholula. His name means "feather serpent," the "mighty serpent."‡ He was worshiped in Chichen-Itza, a city whose ruins still rank among the most imposing in Central America. A temple was built in his honor. It was unlike others in Yucatan. It had circular walls, and four doors, which were directed toward the four cardinal points, with a staircase guarded by serpents. Under the beneficent rule of Cuculkan the nation enjoyed its halcyon days. At length the time drew near for him to depart; he gathered the chiefs together and expounded to them his laws, then took his journey westward toward the setting sun. The people believe that he ascended to the heavens, and from his lofty house he watches over the interests of his adherents. Such was the tradition of the mythical hero as told by the Itzas. Previous to the destruction of Mayapan, temples were built to him, and he was worshiped throughout the land. The version of the tradition about Cuculkan makes him arrive from the west and return to the west, while that concerning Itzamna and Quetzatlcoatl was that they came from the east and returned to the east. With this exception the chief divinity and "culture hero" of the Mayas and Nahuas seem to have been very similar. There is another point in which they resemble one another, they all prophesied their return. These prophecies were obscure, but they distinctly refer to the arrival of white and bearded strangers from the east, who should control the land and alter the prevailing religion. These prophecies gave rise to the general expectation, so that the Spaniards were surprised to find themselves welcomed as the divinities whose advent had been foretold.

The culture hero of the Peruvians was like those of the Mayas and Nahuas with one exception, he seemed to have been at the outset worshiped as a supreme being.§ Vira Cocha was the name of this "culture hero," and divinity.|| He was the first cause and ground of all things. He made the sun, formed the moon, and gave her light; he created the beautiful aurora, the dawn goddess; the twilight, whose messengers were

*Brinton's Hero Myths. See description on page 195.

†The Mandans say that four tortoises vomit out the rains; the Navajoes that four swans drained the earth; the Kiches that four animals brought the magic.

‡See Bancroft's Antiquities, page 229, and Native Races, Vol. III, page 395.

§See Brinton's Gods of the Kiches, also Native Myths.

||Myths of the New World.

the fleecy clouds, who, when she shakes her clustering hair, drops noiselessly pearls of dew on the green grassy fields. Invisible himself, the rays of light were his messengers, faithful soldiers, "shining ones," who conveyed his decrees to every part. He was worshiped as a creator. He was not the sun, but was the creator of the sun, the incarnation of the infinite creator. The legend is, that two brothers started from the distant east, and journeyed to the west, and gave names to the places as they passed. They reached the western ocean, and having accomplished all they had to do in this world, they ascended into heaven. Still there is a myth that Virá Cocha was human. At a remote period he appeared to the tribes as an elderly man, with white hair and flowing beard, supporting himself on a staff and clothed in flowing robes. He met the same fate as other wise teachers. According to another myth, he had a host of attendants, white and bearded like himself. When they reached the sea, they walked out upon the waves and disappeared in the west. His name means "foam of the sea." Dr. Brinton thinks that this story is founded upon the personification of the sun, the god of light and of wind. The Peruvians expected the return of Virá Cocha, so that the Spaniards found themselves expected guests in the realms of the Incas as well as in Yucatan. There were "culture heroes" among the other races of South America. In the lofty plateau of the Andes, in New Granada, was the home of the Muyscas, who were skilled in smelting and beating the precious metals, and were fond of agriculture. They attributed their various arts to the instructions of a wise stranger, who came from the east, and whose path led to the holy temple at Sogomoso. His hair was abundant, his beard fell to his waist, and he was dressed in long flowing robes. At night he retired into a cave in the mountain, and again reappeared in the morning. His name was Chumzapagua. Another name applied to the hero-god was Bochica. He is represented as the supreme male divinity, whose female associate is the rainbow, the goddess of rains and waters, and fertility, fields and child-bearing. There were culture heroes also in Brazil and even in Paraguay, one of which was named Tamu or Zume, called our ancestor, whom the natives regarded as a benevolent old man, to whom they attributed their arts. He came from the east, the sun rising, and went towards the east. The impress of his feet was left upon the rock, and a well marked path was pointed out here as the path of Bochica in New Granada.

The interpretation of these various myths given by Dr. D. G. Brinton is that they were all based upon the personification of the sun or the god of light, since the most of them came from the east, though he does not explain why they went back to the

*The interpretation of the Muyscas "culture hero" was a paragraph which appeared in my article on the "Culture Heroes" in the *Journal of the American Anthropological Association*, and is now reprinted under the name of Muyscas as the great divinity and benefactor.

east. The strange thing about these heroes is that they all have beards and wear long robes, which are sometimes covered with crosses. They were evidently prehistoric in their appearance, and were worshiped as divinities; and yet when we come to identify them in the monuments, we find very human figures which have either beards or robes covered with crosses.*

II. This leads us to the study of the monuments. Do these anywhere furnish testimony as to the "Culture Heroes," so that we can identify them and fix upon the localities where they were worshiped? This is an important question, for by the answer we may not only decide as to the difference between the myths and the traditions, but verify history. In taking the testimony of the monuments, we shall consult those authors who have visited them, and made a study of them, among whom Mr. J. L. Stephens is regarded as chief. This gentleman, in 1840, started with his companion, Mr. Catherwood, from New York for Nicaragua. The two were fortunate enough to strike upon the very localities where the chief cities of the ancient Mayas were situated, some of which had been seen by the Spaniards, but the majority of them were totally unknown to the conquerors. They were surprised at the extent and magnificence of the ruins, but were able to visit many of them, and take sketches of the chief buildings and statues and works of art, and to write out descriptions of the same. The ruins were scattered over a wide region of country, some of them in Honduras (Quirigua, Copan), others in Guatemala (Quiche, Quezaltenango), others in Chiapas (Ocosingo, Palenque), others in Yucatan (Uxmal, Chichen-Itza, Merida, Kabah), all of them bearing the marks of ancient Maya civilization. The publication of their work made a great sensation, and was for the science of archaeology nearly as important an event as the discovery of America was for history. A few explorers had, to be sure, visited the region before,† and still others followed; but the work of Stephens is the most valuable of all. Bancroft says, "The accuracy of his survey cannot be called in question." It was, with great difficulty that the overhanging forest trees were cleared away, and the lines were run out which secured the platting of the various ruins and the location of the pyramids, palaces, temples and altars, with relation to one another, but it was owing to these measurements that we learn the length, breadth and height of the various pyramids, the size of the shrines upon them; also the height and

*I found the beards represented by carvings at Chichen-Itza on which I heard eleven were kept by Stephens. He has preserved two of the idols in portrait statues at Copan as having beards. Neither of these have crosses on their garments, though there are different kinds of crosses among the idols.

†We have a French artist, in 1831, Nornan, from New Orleans, in 1841, Charnay, the French author of the *Maya* (1858), Frederic Castelnau, 40, Capt. De R. de Dupax, 1854, Capt. Guadalupe of the province of Peten, C. A., explored Copan in 1855, and published a report in the bulletin of the Société de Géographie of Paris and in *Annuaire des Amér. Latins*, 1855. France. Vol. II, p. 545.

breadth of the terraces which formed the platforms to the palaces; the size and location of the different rooms in the palaces, their courts and corridors; also the length of the walls surrounding the palaces; the size of the carved pillars and gigantic faces and sculptured altars which surrounded the pyramids; also the length and breadth of the tablets confined within the shrines or adoratorios. From these we determine the character of the different buildings, and decide which were devoted to purposes of royalty, which were used for religious objects, and even decide as to the use of the different apartments in each of the buildings. The description of Mr. Stephens reveals to us the beauty of the sculpture and the magnificence of the architecture, as well as the grandeur of the ruins. It is, however, owing to the skilful hand of the artist, Catherwood, that we are furnished with drawings which bring out in detail all the ornaments which were wrought into the façades of the palaces and of the shrines, and even the sculptured figures or portraits embodied in the statues, and are able to study the symbols and hieroglyphics which appear on them in great numbers. The plates in the book are among the chief sources of authority and information on these subjects and well repay examination. These gentlemen found the most interesting objects at Copan.* The ruins here were two miles in extent and seemed to represent a palace with court-yards, and buildings around the courts, situated upon terraced pyramids, with wide steps leading to the buildings, colossal heads upon the sides of the pyramids, and, what is most interesting of all, nineteen statues covered with the most elaborate sculptured ornaments, and containing the figures which may have been the portraits of the kings and queens who occupied the palace. There were altars covered with most elaborate symbols near seven of these statues, conveying the idea that sacrifices may have been offered to the kings. The sculpture upon some of the statues filled the travelers with astonishment, for it was very beautiful and elaborate, as can be seen from an examination of the plates and the cuts. Quirigua, about twenty miles distant, presented also a collection of statues of the same general character as those at Copan, but somewhat larger; they were carved pillars, with figures on the front and back, and hieroglyphics on the sides, some of them twenty-three feet above the ground, with a base projecting fifteen or sixteen feet. At Quiche there was an extensive fortress, surrounded with ramparts, a palace and a place of sacrifice, but no statues were visible. The place of sacrifice was an isolated pyramid, broken and ruined, but was supposed to be an altar erected for the sacrifice of human victims†

At Paucab, also, were the most extensive ruins, most of the build-

* *Journal of Stephens and Catherwood*, pp. 100-101.
 † *Journal of Stephens and Catherwood*, pp. 117-118.



BEARDED KING AT COPAN.



BURIED STATUE AT COPAN

⁶ The same is true of the relief on the facade at Palenque. See page 133.

See also: Banerjee's *Antiques*, page 133

the human form with plumed head-dress and bunches of bows and arrows; the building called the "red house," called by Charnay the "prison;" and the circular building called the "caracol" or winding staircase, by Norman the "dome," which contained the stairways with balustrade formed of two intertwined serpents. The castle was interesting because it contained a carved door jamb representing a prince with crown and peculiar head-dress; a sculptured lintel with a figure engaged in mysterious incantation; also the shrine in which were square pillars and carved zapote beams and doorways upon the four sides, and the serpent balustrade.

(2.) These discoveries of Mr. J. L. Stephens were for a long time relied upon as about the only authority; but M. Desiré Charnay has made two visits to the same localities, one in 1858 and the other in 1878, and has brought out some new points in connection with the ruins. He visited Mexico and examined the ruins at Tulan, and found the same general arrangement of apartments as Stephens had seen at Uxmal and Palenque. He also passed over the mountains and reached the cities of the Mayas, and made the discovery of another city, to which he has given the name of Lorillard. He took photographs of the various buildings which were drawn by the artist Catherwood, and has furnished some interesting descriptions of them all. The result of his efforts confirms the impressions which were received from the engravings and descriptions in the work of Stephens. At Tulan he found a temple consisting of pillars in the shape of serpents, the heads of which formed the base and the tails the capital. Similar pillars supported the facade of the building El Castillo, at Chichen-Itza, having serpents' heads at the base and feather ornaments at the sides, thus showing that the same symbols were employed by the two races. He speaks of the analogies between the sculptures of the two regions. He calls it all *Idtee*. His photographs of the tablet of cross No. 3 at Palenque bring out the fact that there were hidden away among the foliage which forms the arms of the cross, certain masks which suggest that there was a personification as well as the "nature powers" embodied in this shrine. The face near the top of the cross, a necklace and medallion below the face, remind us of the adornments of the kings and chiefs. The protruding tongue in the tablet of the temple of the sun, Casa No. 1, reminds one of the protruding tongue in the calendar stone of Mexico. These photographs bring out more than ever the magnificence in the ornaments and decorations on the facades of the different palaces, those on the palace at Kibah being very beautiful. The facade of the

Dwarf's House or Nunnery is very imposing. The panoramic view of all the buildings at Uxmal is especially interesting, as it enables us to form a correct estimate of the character of the architecture of the Mayas. In the city called Lorillard there was a magnificent building called the "first temple," another called the "second temple," another called the "palace." In these are sculptured lintels made from wood and stone which represent persons in royal attire, one of them represents a sacrifice to Cucul'kan or a penitential scene.*

(3.) The descriptions and engravings furnished by these two travelers enable us to recognize the differences between the different classes of monuments, for we find in all of the cities altars devoted to sacrifice, pyramids and palaces which were devoted to royalty, shrines devoted to worship, all having ornaments and symbols which were correlated to the design or the purpose of the buildings themselves. This is especially apparent in the shrines which were devoted to specific divinities, for the sculptured figures on some of the temples, whether outside upon the façades, or upon the piers and doorways, or upon the tablets in the inner chamber, are all significant of the worship of one divinity, the one to whom the temple was devoted. Such shrines are to be distinguished from the palaces. The palaces were full of rooms, which were occupied by the royal family, and between the rooms were courts and corridors and apartments of state, and all the conveniences which became the home of royalty. There were occasionally shrines in the palace, in private apartments, in which altars and tablets were erected. Surrounding the palaces were large enclosures, some of which were used for gardens. In the gardens, at the foot of the pyramids, there were statues decorated with the adornments of royalty, and on the sides of the pyramids gigantic heads, some of them fifteen feet high, as high as the columns themselves. These, however, only confirm the impression already formed, namely, that the statues within the palaces were the portraits of deified kings, that the figures on the tablets in the shrines represented the nature divinities, and if there are any "Culture Heroes" to be recognized, they are to be found upon the isolated shrines or upon the pyramids which contained statues upon their summits.



Fig. 1.—Gigantic Head.

*See Appendix C.

It may be that there were capitals, in which kings had their seats of empire, but there were also sacred cities devoted to particular gods. Charnay thinks that Palenque was not a royal palace, but a priestly habitation, a magnificent convent occupied by the clergy, and, like Teotihuacan, Izamal and Cozumal, a city resorted to as a place of pilgrimage. He thinks that there were capitals in which were kingly mansions, and the history of the people can be found among the reliefs. Tezcuco of New Mexico may have been such a capital among the Nahuas; Copan, Chichen-Itza, Quirigua, Uxmal and Kabah may have been the capitals of the Mayas. Whether there were cities or shrines which were sacred to the culture heroes of the Mayas, as Cholula was among the Toltecs, remains a question. The national divinities, such as Quetzatlcotl, Huitzilipochtli, ruled over particular cities among the Nahuas, and it may be there were national divinities among the Mayas. The palace at Tezcuco was a collection of buildings composed of royal residences, public offices, courts of law. It extends from east to west 1234 yards, and from north to south 987 yards. There were in it two large plazas or courts, one of which served as a public market. A palace devoted to Quetzatlcotl had halls facing the four cardinal points. The hall of gold faced to the east, the hall of emeralds faced to the south, the hall of silver, decorated with sea shells, faced to the north, and the hall decorated with feather-work faced to the west. This was in the northern province, but the ruins which have been found in the southern provinces of Yucatan and Guatemala are more magnificent than those of Mexico. This forces upon us the conviction that there were three classes of beings that were worshipped—nature divinities, culture heroes and deified kings.

(4) The task is to distinguish the divinities from kings. The clue is furnished to us by the study of the symbols, especially when taken along with the character of the pyramids, and the buildings on the pyramids. We have spoken of the correlation. Let us consider the resemblances and contrasts. There are at Copan symbols on the statues or sculptured columns which resemble those on the door-posts and façades, as the same or similar head-dresses and personal ornaments are repeated. At Palenque there are symbols on the tablets in the shrines which resembled those found on the piers and façades, but as a general thing the ornaments and symbols on the shrines differed from those on the tablets, and the symbols on the palaces differed decidedly from those on the altars, those on the altars differed from those on the friezes and cornices of the façades. This shows that the symbolism of the Mayas was correlated to the design, and that the distinction between the royal personages and the nature divinities prevailed in all the cities.

(5) This brings us to the main question, Does the study of the



DWARF STATUE FROM COPAN.



TURBANED KING AT COPAN.

monuments enable us to identify the culture heroes? It may be a little thing which will furnish a clue by which to identify a divinity—an eye for Tlaloc, a bird or feather-headed serpent for Quetzatlicoatl, a vine or leaf or a cross for Centeotl, the god of vegetation, a child in the arms for the god of maternity, but the analysis of these figures and symbols, especially when taken in connection with the study of the architecture, will enable us to fix upon the divinity to which a building, shrine or tablet was devoted.

These are the means by which certain gentlemen have sought to identify the culture heroes with certain shrines. M. Charnay has described the pyramid called El Castillo, in Chichen-Itza, and thinks that the building on it was a shrine to Cuculkan or Quetzatlicoatl, as this is the pyramid which has the serpents for balustrades. The feathered serpent is the symbol of this "Culture



FIG. 1. Statue of Tlaloc.

Hero." He has ascribed the shrine which contains cross No. 2 at Palenque, to Tlaloc, for he recognizes the eye of Tlaloc in one of the figures on the balustrade and thinks the palm leaves and masks were also emblems. The shrine at Uxma and Lorillard, especially the one with heavy cornice and massive pillars, he ascribes to Cuculkan, as he recognizes the feather-headed serpent in the pillars. The stone tablet which represents a sacrifice at Lorillard he ascribes to the same divinity. The statue represented as lying upon the back and holding a vase in the hands, one of which was found by M. Le Plongeon at Chichen-Itza and another at Tezcuco in Mexico, he ascribes to Tlaloc. Figures as numerous as there are carved on the surface of the stone, a sheet of water, a palm plant, and human figures, are the emblems of Tlaloc. Other tablets represent the Mexican or Maya Bacchus or god of wine. The fragment in the last temple at Chichen-Itza, which has a fragment of a face with head-deer, is given



TURBANED KING AT COPAN.

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Fig. 2.—Statue of Tlaloc.

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sash, sandal, wand and a bearded face, with the vine expressing speech extending from the mouth, Charnay thinks represents Quetzatcoatl, on account of the beard. Another figure on the capital above the pillars has a turban with a feather head-dress and stands with upraised arms supporting the entablature. He wears large bracelets, a collar of precious stones, a shield, a richly embroidered mantle and has a long, flowing beard and the same symbols of speech in front of him. This figure, Charnay thinks, also represents Quetzatcoatl. There is a figure of a statue standing on a pyramid with a peculiar head-dress, a garment or flowing robe with crosses upon it, but which has no beard. This figure, Hamy thinks, represents the Quetzatcoatl divinity and recognizes in the figure the symbols of this culture hero. The tablet of the cross, No. 2, at Palenque, Dr. Brinton thinks, represented Quetzatcoatl, as it contains the bird on the summit of the cross, and represents two figures as offering sacrifice to the bird.* With as much reason we may identify the shrine or temple with the three tablets as the shrine of the goddess Centeotl, the wife of Tlaloc, for there are three figures on the piers of this temple which represent a female with a child in the arms, which is the emblem of this goddess among the Nahuas. She was regarded as the goddess of maternity. At the back of the shrine is the tablet containing the prayer to the goddess. There is an isolated pyramid on which is the shrine which is called the shrine of the beau-relief. In the shrine is the tablet shown in the cut. See Fig. 3. It represents a warrior with a helmet, sitting on a globe, the globe resting on a double-headed throne. The tablet, as a work of art, secured admiration from Mr. Stephens. This has not been identified with any particular divinity or culture hero, yet the elegance of the figure and the finish of the art in the tablet and the isolation of the pyramid and the shrine, show that it was an important divinity. It may represent Cuculkan, the Maya "Culture Hero," who was the god of air personified, or, what is more probable, the Maya god of war, for Huitzilopochtli, the Aztec god of war, is described by the early writers as an image seated on an "azure globe," under a canopy which symbolized the heavens, and as richly decorated.

III. This leads us to the subject of the deified kings. We have already spoken of the difference between the pyramids on which were the palaces and those on which were the shrines or temples, and have pointed out the fact that the monuments and ornaments were correlated to them. This point is illustrated still more by the study of the so-called portrait columns. These have been taken as representing the "Culture Heroes" or the personal divinities, and they have been compared to the figures on the tablets; but we maintain that they were the por-

*Professor L. B. H. has shown that the shrine Casa N. 1 at Palenque, was the temple of the god of war, Huitzilopochtli, and Casa N. 2, the god of rain.

traits of kings, and that they illustrate the paraphernalia of royalty. While there are upon them, especially upon the back, symbols reminding us of symbols of the nature gods, especially of Tlaloc, the "rain god," yet the fact that the faces upon them are so life-like proves that they were the portraits of kings.



FIG. 4.—Seated Figure at Palenque, representing the God of War.

We are to notice here that there was a difference between the decorations of the kings and that of the priests, those of the kings being very elaborate and abounding with many personal ornaments, those of the priests being plainer but more symbolic. We shall see this if we compare the different figures and statues which Mr. J. L. Stephens discovered at the foot of the pyramids of Copan with those figures which he saw on the bas-reliefs which covered the façades at Palenque. We maintain that the former represent the forms of kings and chiefs, clothed in their



AIR GOD DRESSED AS A KING.

in the Tablet on the Left Pier of the Temple of the Sun at Palenque.



RAIN GOD DRESSED AS A PRIEST.

From the Temple of the Sun at Palenque. Tablet in the Right Pier.

resents the serpent's skin, the eagle's beak and the parrot's beak, one of which is the symbol of the god Tlaloc and the other of the god of war. These symbols, which are on the back of the statues, show the divinities which were worshiped, but those on the front were evidently the portraits of the royal family. This is confirmed by comparing the figures which are on the Tizoc stone in Mexico with those on the bas-relief at Palenque. The first evidently represents a king triumphing over conquered kings; whereas the bas-reliefs represent the priests which were connected



Fig. 5.—The Tizoc Stone.

with the shrines and the divinities which were worshiped in them.* There are few monuments which show greater contrasts than do the Tizoc stone and the Palenque tablets.

The figures on the stone show what was the royal attire of the Aztec kings, while those on the bas-reliefs show the attire of the priests, and perhaps the conventional dress of the culture heroes, as well as the attire of the common people. There were in three of the shrines two figures which were dressed alike. They had the same attitudes and were engaged in the same act of sacrifice. These may be seen standing on either side of the cross, which was the central object of worship and which symbolized the nature powers. In one tablet, the tablet of the sun, they stand upon crouching human figures; in another, the tablet of the tree, they stand upon the corolla of a flower or branch of a vine; in a third, the tablet of the bird and cross, they are standing upon an altar. They are surrounded by hieroglyphics, which may have

*See Charnay's description of bas-reliefs in tennis court at Chichen-Itza, p. 362.

been intended for a prayer. Their attire is made up of drapery which falls in folds, and probably represents the common attire of the people, especially the better class. They represent two persons, male and female, offering sacrifice. Corresponding to these, on the outside of the temple of the sun, there are two figures—one clad in the attire of a king, the other of a priest. See Plates. These may have been intended to represent the divinities Tlaloc, the god of rain, and Huitzilpochtli, the god of war; but if so they were gods who were clothed in the attire of kings



Fig. 5.—*Queque and Kneeling Figure*

and priests.* The comparison of these figures will enable us to see the manner of representing the different classes; those on the central tablets were symbolic of the nature divinities; those on the outer tablets representing the common people offering sacrifices; those on the façades or piers, kings and priests, waiting upon or worshipping the nature divinities, the god of war, of rain, the air and sun.

There are, however, figures on the bas-reliefs in the palace at Palenque which represent warriors or kings, with captives before them. These figures are clothed almost exactly the same as are the figures on the Tizoc stone and are in the same attitude. Stephens says: "The principal personage stands in an upright position, and exhibits an extraordinary facial angle. Sup-

posing the statues to be images of living personages, they indicate a race now lost and unknown. The head-dress is evidently a plume of leathers; over the shoulders is a collar decorated with studs, and a breastplate; part of the ornament of the girdle is broken; the tunic is probably a leopard's skin; the whole dress no doubt exhibits the costume of this unknown people. At his feet are two naked figures seated cross-legged, and apparently suppliants."

*Prof. H. Allen says: "This is the temple of the god Huitzilpochtli and his equa, Tlaloc. The symbols on the roof and cornice refer to these, as the faces at the ends of the cornice, with the double lines for eye and mouth, are unmistakably Tlaloc signs. On one of the figures on the piers we also find the sun face, the belt, the front pendant, the bracelets, the neck ornament, the helmet, the shield, the crescent moon, the back ornament, the twisted cords, the eagle head and the twisted serpent in the hand, all of which are symbols of the god of war. On the other pier is the rain-god Tlaloc, blowing the wind from his mouth. He has the eagle in his head-dress, the jaw with grinders, the peculiar eye, the four Tlaloc dots on his ear, the snake between his legs, the four Tlaloc dots again in his head-dress, the leopard skin on his back (the tiger was the earth in Mexico), and the naked feet have peculiar ornaments, all of which should be noticed as the symbols of the rain-god of the Aztecs."

Another bas-relief was upon the pier which faced the western corridor of the palace. The subject consists of two figures with facial angles similar to that already given, plumes of feathers and other decorations for head-dresses, necklaces, girdles and sandals. Each has hold of the same curious baton, which resembles a serpent, and opposite their hands are hieroglyphics. On the adjoining pier is a bas-relief representing two figures, one kneeling as if to receive an honor, and the other a blow." See Fig. 6. The standing figure here seems to be that of a warrior, as there is an ornamental battle-axe projecting over the right shoulder and a wand is held in the left hand.*

The same point is illustrated by the figures which are described by Charnay as carved upon the stone lintels at Lorillard City, for these represent royalty in the act of devotion, one of them standing, the other kneeling. The kneeling figure is a female figure who, as a royal penitent, was undergoing the painful ceremony of drawing the rope covered with thorns through her tongue as an act of penance or sacrifice; while the male figure, called the Achcantli, carries in his hand a palm branch or sceptre and encourages the penitent in her painful task. The head-dress, wide collar, heavy bracelets, ear-rings and superb mantle of the kneeling figure show how rich was the royal attire. We think that any one who examines the engravings and studies out the different ornaments contained in the head-dresses will conclude that they represented the royal attire and that this was very different from the priestly garb. We acknowledge that the various parts of the royal attire were full of symbols, but this is only in accord with the custom of the aborigines of America. They show that there was a development of ornamentation on this continent as well as symbolism. We may take each part of the dress of kings and chiefs and examine them in turn and find that they were all emblematic of the occupation, rank and office of the person that wore them. We may begin with the savages and work up to the civilized races and find that each article of dress grew into elegance and finish, and at the same time increased in its significance and symbolic use; but the fact helps us to identify the different classes and distinguish between the kings and priests, and between these and other culture heroes.

The same lesson may be learned from some of the figures which were discovered by Charnay in the building called "the castle." Here there was a single tablet which had three figures upon it, the central clad in the attire of a king; the one above it

*The crown on the head is said to contain an elephant's trunk, but the engraving shows that it was the usual an-mal-headed casque or helmet, such as was commonly worn by warriors. The ornament which has been taken for the elephant's trunk is only the divided staff, which is the usual sign of speech. To prove this we shall refer to two bas-reliefs. One of these is on the doorway in room No. 1 of the same palace. Here the helmet has waving feathers protruding from it, but is made from the upper jaw of some monster with a glaring eye and a long protruding nose, something like a tapir, which here is turned up and back, but which cannot be taken for an elephant's trunk. Stephen's Yucatan, Vol. II, p. 319



FROM THE INNER TABLET OF THE TEMPLE OF THE SUN.

The symbols on the central tablet are as follows: 1. Two staffs arranged as a St. Andrews cross. 2. A face with four rosettes, a concentric circle, a serpent for a nose, a wind coil for an eye, a protruding tongue. 3. A face with cross-hatchings, four dots and a face with protruding tongue. 4. Crouching figures with Tlaloc eyes, then, dressed as priests. 5. Cross in a circle, divided staffs or wind symbols, and masks.

pyramid is grand, and it would be difficult to exceed the richness of the ornament and sharpness of the sculpture."

The large number of idols found by Mr. Stephens were at some distance from the pyramid, in a court which may have been either the cemetery or the garden, as it was surrounded by a terraced wall, and was filled with idols and altars which faced in toward the court. "The first, on the point marked K, was fallen and the face destroyed. At a distance of two hundred feet stands the one marked S, with its front to the east, on a pedestal six feet square. Before it at a distance of eight feet ten inches, is an altar. The engravings represent the front and back view. The front is supposed to be the figure of a woman, and the countenance presents traits of individuality leading to the supposition that it is a portrait. The back is a different subject." See Plate.* Here at the top is a crown of featherwork, which gracefully falls away from the helmet, which has the face of Tlaloc. Below this is a diadem which hangs across the forehead. On the shoulders is an elaborate collar or necklace, composed of precious stones, and a shoulder-piece wrought into the shape of trailing vines. On the hands and arms are wide wristlets made of some rich material. A medallion hangs suspended between the arms. A fringe or overskirt may be seen below the arms. Three sashes fall gracefully over the skirt, one of them reaching to the ground. The skirt is wrought into the usual pattern, with cross hatching over a plain fabric. It has a ruffle at its lower edge, which seems to be covered with a row of precious stones. The feet are wrapped in moccasins, with a heavy border at the back, and resemble those of a China woman.

The symbols on this statue are as follows: On the back, the face of Tlaloc, the rain god, with its heavy grinders, sunken cheek, bulging eye, and other symbols peculiar to that divinity. This face is seen in the center of the statue, on the back of the female, and is surrounded by a graceful framework of drapery, with fringes and folds, and medallions in the folds. The most remarkable symbol is the one which may be seen on the forehead of Tlaloc. This is the same symbol which was seen on the cast of the altar at the World's Fair, and which there called forth remark, as it was said to be a phallic ornament and to have a mythologic significance. The next figure is still more remarkable, for it seems to be the figure of a king, but a king with a peculiarly glaring eye. Stephens says of it: "It is one of the most beautiful in Copan, and is equal to the finest Egyptian sculpture. It stands at the foot of a wall of steps, with only the head and part of the breast rising above the earth. The eyes in this statue turn out very much as the eyes of the natives of this region do at the present time. See Plate,†

*Female Statue. Clarnay thinks that the same idol personifies several divinities—the dragon's jaw, Quetzalcoatl, the woman's face, Centeotl, or the Mexican Ceres; the face on the back, Tlaloc. †See Plate of the Buried Statue.

Near this was the statue we call the "bearded king." It will be noticed that there is no feather head-dress on this king, but the collar is made of a mosaic of precious stones. The breastplate and shoullder-pieces are very elaborate. The skirt is decorated with a double fringe, medallions and solid ovals; sashes fall over the skirt, one of them terminating in a peculiar ornament resembling serpents' fangs. For garters, there are two rows of precious stones and medallions; anklets are highly ornamental, a rosette and frill between the ankles. We recognize no symbol on this statue except the serpents' fang and the solid ovals. It stands at the foot of a wall rising in steps to the height of thirty or forty feet. Its height is eleven feet nine inches. See plate. Before it, at a distance of twelve feet, is a colossal altar. It appears to represent the portrait of a king or hero, perhaps erected into a deity. It is judged to be a portrait, and its sex is ascertained by the beard and mustache. The altar is seven feet square and four feet high, and richly sculptured on all sides. The front represents a death's head. The top is sculptured and contains grooves for the passage of the blood of the victims.

The next engraving represents the "turbaned king." "It exhibits the front of a monument twelve feet high, four feet wide, which stands on a pedestal seven feet square. The front view seems a portrait, probably of some deified king or hero. The two ornaments at the top appear like the trunk of an elephant. A crocodile's head was seven feet from it, but appears to have no connection with it." The back presents a different subject. The decorations of royalty on this statue are as follows: The turban on the head, which is covered with ornamented drapery; this turban makes the face resemble that of a Chinese mandarin, and reminds us of the Tartar mode of covering the head. Below this is the chin-piece, which seems to be attached to the breastplate, and projects as high as the cheek. The breastplate and shoullder-pieces on this statue are very elaborate, but they contain no symbols. The skirt is covered with medallions and has a fringe made up of solid ovals, a heavy sash or maxth falling over the skirt, and garters which seem to be connected with the maxth. There are many symbols on this statue, but the regalia is more striking and prominent than the symbols. The symbols on this monument are as follows: (1.) The three dots or spotted disks at the top, in front, and at the sides of the figure, a symbol which is repeated four or five times on the back of the monument. (2.) The two whorls or coils situated between the elephant's trunk, so-called, a symbol which is very common and is often repeated in the other monuments. (3.) The medallions which hang suspended from the arms and from ornaments on the skirt, the medallions facing each way. (4.) The solid ovals which form the fringe of the skirt and the ornament on the sash. (5.) The most remarkable symbol is the one which is seen on

the back. It represents the face of the sun god with open mouth, protruding tongue, glaring eye; every part connected with ornaments and symbols, that the face is recognized only after a close study of the different parts and comparing it with the face on the altar.

The next engraving represents a monument seventy-two feet north from the last. The front is toward the west. It is twelve feet high, on a pedestal six feet square. Before it, at a distance of eleven feet, is an altar very much defaced. The front view is a portrait. The back is made up of hieroglyphics arranged in tablets. Each tablet has two hieroglyphics joined together. The tablets probably contain the history of the king or hero delineated. The royal regalia on this statue is also very elaborate. On the head is a peculiar framework, which seems to be composed of four bars; decorated and elaborate. On the shoulders are many highly wrought ornaments. The necklace is made from precious stones. The skirt is also decorated with ornaments, but the garters and anklets are the most elaborate part of the dress. It would seem as if the legs, knees and feet were loaded with jewels. The only symbols on this statue are as follows: At the top of the ornament is the head of Tlaloc, with the usual eye, open mouth, sunken cheeks, with three dots on either side of the head and a diadem crowned with feathers, the ovals at the bottom of the skirt. The back is made up entirely of hieroglyphics. It is a very striking statue. The face is massive; the thighs, which are naked, are very heavy; ankles and feet clumsy. The whole figure is short, but the ornamentation on it is elaborate and highly wrought. We have dwelt upon these figures in order to show that the statues of the kings were entirely different from those of the "Culture Heros," and to prove that they were not idols which represented divinities, but were portrait statues of kings. This shows that there were three classes of beings worshiped by the Mayas, as follows: The personified nature powers, Culture Heroes and Deified Kings, the shrines having been devoted to the first class, the isolated pyramids to the second and the palace courts to the last.

AN OBSTETRICAL CONJURATION.

BY D. G. BRINTON, M. D.

The "medicine men" of the native American tribes were everywhere prominent figures in the primitive social life, usually forming a guild or caste by themselves. They claimed the possession of mysterious, occult powers, by which they could control the elements and the operations of nature, and also bind or loose the spiritual potencies which direct human fate.

Nearly everywhere they are reported to have employed in their invocations and chants a dialect or mode of speech, which differed from that in common use, and was calculated to throw an additional air of solemnity on their expressions. Sometimes this seems to have been a mere jargon or *argot*, like thieves' slang; at others, it bears evident traces of archaic forms and obsolete terms, indicating that it is a survival of a more ancient stratum of the language of the tribe.

Frequently the obscurity of this sacred dialect is rendered still more dense by the introduction of numerous figurative and symbolic expressions, and by references to rites and superstitions which are local and little known. Hence it becomes a severe task for one even well versed in the ordinary language to translate the chants and conjurations of the medicine men, or, speaking more properly of them, the native priesthood.

This is well illustrated by a series of specimens from Mexico which have been lately published from a manuscript of the seventeenth century, in the extensive "Collection of Inedited Documents relating to the History of Spain," printed by the Spanish government. The author, Father de la Serna, made it his business to gather a number of the formulas at that time--about 1650--in current use among the native doctors, his object being to show that they were really in the spirit of paganism, and ought to be condemned by the parish priests. Being a thorough scholar in the Nahuatl language, he succeeded in learning not only the exact words, but also the hidden significance of these curious prayers and magical chants.

Some of them were couched in terms quite remote from the ordinary tongue, departing from it so far as to introduce new phonetic elements, such as the letter R and the initial L, which are never heard in pure Nahuatl. In most examples, figures of speech and metaphorical expressions abound, which were understood by the initiated, but conveyed no meaning to the ordinary hearer. Considerable interest attaches to these figures, as there is no doubt but that they were transmitted from an age anterior to the Conquest; and if we would understand the symbolism which is apparent in ancient Mexican and Maya manuscripts and preserved on the walls of their temples, here is an

opportunity to learn under what mystic forms they concealed the true meaning of their rhapsodies and incantations from the common herd.

Many of these native officiants, and indeed, often the highest in rank, were women. There were also many of that sex who practiced medicine, uniting a real knowledge of the therapeutic powers of various herbs with a large amount of mummary and magical procedures. Men-midwives were unknown, women alone attending in confinement cases. When the labor was delayed, the child was delivered by manual aid; but before this operation was undertaken, a mystical formula was repeated by the midwife, which is the one I select as an example of these curious exorcisms. It runs as follows:

THE CONJURATION.

"Come now to our aid, you Five Fates; and thou, my Mother, the rabbit with its mouth upward, thou must now begin the green throes. Let us see who is so daring as to attempt to destroy us.

"Come also thou, the nine times smitten, the nine times beaten; see, we scatter thee abroad for the yellow throes, the green throes. And come thou, my Father, thou of the four reeds, thou with the red hair, who spits flame; and thou, white woman, and thou, spirit of yellowness, come.

"Come, ye goddesses who open the secret fountains, come and aid this birth; come spirits of the Five Fates, turn your gaze in one direction, that we may overcome whatever would oppose us; that I may be strengthened to resist and destroy even the daughter of the gods."

The explanations of these adjurations are as follows:

The "Five Fates" are the five fingers, which the midwife is about to use; "my Mother, the rabbit with its mouth upward," is the earth, Mother Earth, from which all things grow upward, called a rabbit in opposition to the figure in the moon, which the natives also called a rabbit; "green throes", because pains were divided in the native nosology into colors, green, yellow, grey, etc.; the "nine times beaten" is the tobacco, which was ceremonially prepared in this manner; "my Father" refers to the fire, called of "four reeds", because the new fire was ceremonially kindled on the day of the native calendar named "four reeds"; the "white woman" is the copal gum burned for incense; the "goddesses who open the secret fountains" are probably the divinities or personified forces which preside over child-birth; while the final reference to "the daughter of the gods" is an obscure allusion which I can not explain.

This instructive example indicates how far removed was the speech of the priestly class from that of ordinary life, and how carefully it should be studied, if we would enter into the spirit of native symbolism.

EGYPTOLOGICAL NOTES.

BY WILLIAM COPLEY WINSLOW, Ph. D., LL. D.

THE TEMPLE OF QUEEN HATASU.—Ever since Mariette disclosed the sculptures on a wall of the temple of Hatasu, at Deir-el-Bahari, representing the naval expedition to Punt, that spot has been accounted a rich site for further investigation. In her lecture on that famous monarch, the "Queen Elizabeth of Ancient Egypt," Miss Edwards graphically portrays what that temple was in its glory and what may be expected in excavating so promising a site. Dr. Naville, of the Egypt Exploration Fund, in but three weeks' labor last season, found a group of chambers under the *dibris* of the cliff; a hall of offerings against the western rock; a chamber on the east containing a high altar; and a little chapel leading into the northern cliff, with beautiful painted reliefs, which are being reproduced in color for the Fund's volume. From a communication just sent to me from Thebes, I make these extracts upon the work in progress: The temple is being almost literally cut out of the mountain. When the vast mounds upon the middle terrace have been cleared away—a labor which can not proceed very fast—the brilliantly white colonade round its northwestern end will become a landmark visible for miles. The clearance of this part of the temple will have a double interest; firstly, architectural, for Mariette's plan has been found to bear very little relation to fact, and the present appearance of the walls promises unusual features of construction; secondly, artistic, for we have found that a wall of unknown painted reliefs exists below the accumulated rubbish. These will be laid bare during the next fortnight, but the main mass of the mounds will hardly disappear this season. Already upon the upper terrace are piled more than three hundred sculptured blocks, taken by the Copts from all parts of the temple to build their convent walls. In the mounds of the middle terrace we shall recover nearly as many more, of which some show already. When all is cleared, and the possibilities of further discovery exhausted, these blocks will be sorted, and, if possible, built up again into their original places. This work, which will be supervised by Mr. John E. Newberry, the architect attached to the expedition, will be of the first importance, both on artistic and historical grounds; for it will result in the reconstruction of several scenes hardly inferior either in interest or workmanship to the famous Punt reliefs. For example, much has been recovered of the decoration of the third or lowest terrace, showing that there was represented

another nautical scene—the transportation of two obelisks from Elephantine at the bidding of the queen. Either in the mounds or by the demolition of the Coptic walls, left standing on the upper terrace, it is hoped that the rest of this scene may be found. Every effort is being made to preserve all evidence as to the subsequent history of the temple, and to find the small objects of antiquity, scattered among the *dibris*. So far the main finds of the latter class have been beads, scarabs and figurines, made of the famous blue-glazed ware. Good Demotic and Coptic *ostraka* are frequent, and there is much refuse from sifted mummy pits of Dynasty XXII. Some coffins and mummies have been found lying loose among the upper layers of *dibris*; one fine case belonged to Namen-Menkhet-amen, a relation of Osorkhon II. and Takelothis; another contains a very finely rolled mummy, for whose reception it was not originally intended; a third is early Coptic, and shows on the front of the outer cloth representations of wine and corn in the hands, while below is the sacred boat of Osiris, and over the heart a *wastika*.

Dr. W. G. Hogarth, of the Fund staff, who writes the above, very truly remarks that architecturally Hatshepsut's Temple has no parallel; in the quality and preservation of its reliefs it vies with any of the best known tombs; it is situated in a grander situation than any other building in Egypt. The boon which its clearance will confer on lovers of art and the picturesque can hardly be overstated; and science will gain not less by the exploration of a monument of the great Dynasty XVIII, the finest existing memorial of Egypt's most famous queen.

ATLAS OF ANCIENT EGYPT.—Such is the constant and growing need of a portable atlas of Ancient Egypt, for information and reference, that the Egypt Exploration Fund committee has decided to issue one at an early day. Under date of February 17th, Miss Emily Paterson, the London Secretary, forecasts the atlas in this form: Preface; Introduction; Biblical References to Localities in Egypt; The Dynasties of the Old Kingdom and Empire; General Map of Ancient Egypt with Adjacent Lands; General Map of Modern Egypt; Map of Ancient Egypt (the Delta to Beni Suef); Tables of the Nomes, with their capitals and the gods worshiped in them; Map of Ancient Egypt (Beni Suef to Ekhmim); the same (from Ekhmim to Philæ); the same (from Assouan to Semneh); the same (from Semneh to Khartûm); Map of Goshen and the Route of the Exodus; Ancient and Modern Authorities for Egyptian Geography and History; Index.

These eight maps, with the tables and other data, will be very much sought after by all readers of ancient history and explorations.

The comparatively small maps at the end of the Archaeological Report for 1892-93, published last summer, illustrate how

useful such an atlas will be. This brochure, by the way, is an *avant couru* of the elaborate volume of the explorations and the equally elaborate volume of the survey published each year. It sketches, too, the progress of Egyptology during the year.

DR. NAVILLE very properly will preside over the International Congress of Orientalists, to be held in his own city, Geneva, from September 3d to 12th. It is to be hoped that complete harmony will soon prevail among all the members of this distinguished body. It will be recalled that a section of the Congress met last in Lisbon and another held its session in London.

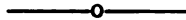
MISS MARY BRÖDRICK, Ph.D., of College Hall, Byng Place, London, is engaged in lecturing on subjects of Egyptian history and archæology. She has edited Murray's *Hand-Book for Egypt*, translated and annotated Brugsch's "Egypt under the Pharaohs," and prepared a very useful American edition of Mariette's "Outlines of Egyptian History" (Scribner of New York), which I have commended as a book for students and reference. The same enthusiasm which developed an Amelia B. Edwards into an Egyptologist can inspire many an American woman to turn her talents and acquisitions Nile-ward. The art side alone is a fascinating investigation; besides which, the deft female fingers would transfer the text in a nicer and more rapid form than would or do many of the male hieroglyphists. It is not generally known how much Dr. Naville is indebted to his wife for her skill as a draughtsman, of which his volume on "Goshen" is a marked instance.

THE next Congress of Orientalists will do Egyptology a good service if it takes steps to have established a consensus of opinion respecting the spelling of many words and proper names, particularly, in the former case, of words in which the second vowel is supplied, and in names like Hatasu and Thothmes. I refer chiefly to the general use of textual and other words rather than to their scholarly use in critical and elaborate articles. The vocabulary is, however, receiving the constant study of the disciples of the schools of Brugsch and Erman; Professor Hess, of Freiburg, has been doing important work upon a papyrus, partly in Demotic, in the British Museum; and Dr. Steindorff has been restudying the hieroglyphic text with special reference to phonology. This, by the way, lets us remark that the theory of recent date that there were no homophones in the early alphabet receives confirmation from an investigation by Professor Hommel as to the supposed two interchangeable signs for *S*. The analogy of some Semitic letters shows that these signs represented two distinct sounds. Dr. Erman has added his testimony to that of Dr. Hommel.

REGARDING the Grot collection of Græco-Egyptian portraits,

I am struck with the words of Dr. J. Walter Fewkes, who, in remarking that the ethnologist looks to Egypt for explanations of mortuary customs, says that the mask was placed over the face of the deceased to transform him into a spirit, just as the youth who dons the mask in a sacred dance becomes the god whom he personifies. On ethnological grounds, this is a good reason; but a still stronger one, and the most human or natural, was that of affection; and so the Greek in Egypt used his skill and his love of beauty in painting portraits that to-day are full of life, character, and an entrancing subtlety. Dr. O. W. Holmes, viewing with me the collection when exhibited in Boston, said of the famous "No. 45" (the portrait of a girl), "I have just seen her face on Washington street," to which I replied, "Or coming out of a symphony concert."

THE glad bit of news comes this week that Volume II of "Beni Hasan" is published and *en route* to the Smithsonian for distribution. The ethnologists who read the AMERICAN ANTIQUARIAN should study the facial illustrations in this book.



PALESTINE EXPLORATION.

BY THEODORE F. WRIGHT.

The railway now in process of construction from Haifa, near Mount Carmel, to Damascus will be of much greater commercial importance than the line to Jerusalem, which is rather for the transport of travelers than of merchandise. As the means of landing at Haifa are superior to those at Jaffa, so the country to be reached is more productive. It is not unlikely that the beautiful and salubrious neighborhood of the Sea of Galilee, once so populous, now nearly deserted, will be opened to fresh settlement, and that the plain of Genneseret, along the western shore of that sea, will again be covered with grain fields. Beyond, of course, the railway will reach Damascus, the principal city of western Asia, and will at once displace the trains of camels which are now the means of conveying merchandise from the shops of Damascus toward Egypt and the west. Of course I do not overlook the road for wagons over the twin ranges of the Lebanon to Beyrout, but it is a very slow and laborious and expensive way for freight and will not compete with the railway.

To the archæologists the construction of this railway is very important, because the managers have taken the Palestine Exploration Fund under its protection and will give its agents every facility in prosecuting their work. In the presence of the constructing parties it will be safe to do much important work

in the vicinity of the line, and it is not unlikely that valuable discoveries will be made by the very digging which will be done for the sake of the railway, especially a little later on when the Jordan valley is reached.

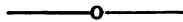
The completion of a contract with E. E. Howell, of Washington, D. C., to reproduce in this country the contour or relief map of Palestine, which attracted so much attention at the Exposition, makes useful a careful description of it. It is constructed on the same scale as those of the Old and New Testament Maps already issued by the Society. These were reduced from the scale of the large map (1 inch to the mile) to $\frac{3}{8}$ of an inch to the mile, or the fraction of $\frac{1}{1600}$. The levels, as calculated by the engineers who triangulated the country, of whom Mr. Armstrong was one from the commencement to the end, are followed exactly. No other correct raised map of the country is possible, because the Survey of Palestine is copyright and belongs to the committee of the Palestine Exploration Fund. Without raising the question of piracy, however, no other trustworthy raised map is at all likely to be attempted, because the knowledge of the country requisite can only be possessed by one who has stepped over every foot of it, and because the labor which Mr. Armstrong has given to the work—extending over many years—will scarcely be expended by any other person, now or in the future. This labor will be partly understood when it is explained that the map was prepared by the super-position of small pieces of cardboard, many thousands in number, cut so as to represent the lie of the country, and laid one above the other. The work occupied all Mr. Armstrong's leisure time for seven years. In its unfinished state the map presents the appearance of a completely terraced country. It embraces the whole of western Palestine, from Baalbeck, in the north, to Kadesh Barnea, in the south, and shows nearly all that is known on the east of Jordan. The natural features of the country stand out prominently, and show at a glance the relative proportions of the mountains, heights, valleys, plains, etc. The seas, lakes, marshes and perennial streams are shown in blue; the watercourses on the plains and main roads are marked by a grooved line; the Old and New Testament sites in red, and the hills and plains in white. Towns are numbered to correspond with a reference list of names.

With this map before him the teacher or the student is enabled to follow the Bible narrative exactly; he can trace the route of armies; he can reconstruct the roads; he can understand the growth and the decay of cities, their safety or their dangers, from their geographical positions. It is a magnificent addition to the many works which this Society has given to the world. It illustrates the practical usefulness of the Society, while it adds one more to its achievements in the cause of illustration and explanation of the Bible Lands.

The map should be in every public library and every public school and every Sunday school. Its price is necessarily high, because the work is most costly to produce. It measures seven feet six inches by four feet, and can be seen at 612 Seventeenth street N. W., Washington. The map is cast in fibrous plaster; it is colored, and framed solidly; it is despatched in a wooden box, for which no extra charge is made. It is warranted to travel safely. The price is \$55. The price in England, including boxing, is about the same, and in addition the American purchaser must pay freight and duty. Mr. Howell's reputation is such, and his engagement so clearly requires the excellence of this work to be equal to that of any work by him exhibited by the United States Geological Survey or others, at Chicago, that there is no reason to doubt that the arrangement will prove satisfactory to all.

As to the work next to be undertaken in Palestine, I may say that a firman or permit is eagerly expected from the Turkish government, and that, as soon as it is granted, a very important work will be undertaken. The account of the work at Lachish is about to be published by MacMillan & Co., fully illustrated.

LATER.—The firman for two years' excavation at Jerusalem has been granted.



SUBSCRIPTIONS TO THE EGYPT EXPLORATION FUND AND ITS SURVEY FUND.

To the Editor of the American Antiquarian:

The following subscriptions to the Fund since March 20th are gratefully acknowledged:

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From March 20th to date I have received, very thankfully, these subscriptions to the Archæological Survey Fund:

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As this is the initial acknowledgment in this magazine, thanks to its friendly editor, who is an honorary secretary of this society, I will state our terms of subscription:

All donors or subscribers to the season's explorations of \$5 or upward receive the illustrated quarto volume of the season. Previous volumes can be had. It is hoped that all who can will subscribe liberally to the cause for itself.

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The Archæological Report, a valuable illustrated *brochure*, issued each summer, is sent free to our subscribers. It is to precede the elaborate volume, informing the reader of the "latest results," with summaries of archæological news, notes of books, etc., etc. It has been truly said that no other archæological or historical society in the world gives so much for a five-dollar subscription. The Atlas is described in "Notes." We have no endowment. Will our readers aid this good cause of ethnology, anthropology, archæology and history? Circulars gratuitously furnished.

WM. C. WINSLOW, Honorary Treasurer,
April 20, 1894. 525 Beacon Street, Boston.

Editorial.

WAS THERE CONTACT WITH ASIATIC COUNTRIES?

THE ELEPHANT TRUNK AND ANIMAL-HEADED THRONE.

The subject of contact with Asiatic countries has come up many times, and many arguments in favor of it have been brought out, the similarity of the symbols having given rise to the thought. Some of the symbols, however, have been misinterpreted, and really weaken the argument rather than strengthen it. Among these we shall place the elephant's trunk as first, for this has been seized upon by many writers to prove the antiquity of man in America, or to show contact with Asiatic countries in prehistoric times. The fact is, however, that no such elephant's trunk exists in America, either as a symbol or an ornament; and it is somewhat doubtful whether even the elephant pipes which were discovered in the Mississippi Valley are genuine. We refer to it at this time because it is important to separate the true from the false, and so prepare the way for the stronger argument in the future. We believe that the argument is strong enough without this.

The first writer to point out the elephant's trunk was Waldeck, who imagined that he had discovered it as an ornament in the hieroglyphics at Palenque. Charnay, however, has visited this region and examined the hieroglyphics, and declares that there is no such elephant's trunk in any hieroglyphic in Mexico or Central America, and expressed surprise that Waldeck should have represented that there was. He asks the question, What end did he propose to himself in giving this fictitious representation of the Katunes in the panel of the temple of inscriptions? Neither Catherwood, who drew the inscriptions, nor myself, who brought impressions of them away, nor living man, ever saw these elephants or their fine trunks. A theory might be started with respect to the probable Asiatic origin of the Toltec tribes, of the influence of Japanese civilization, but not from the discovery of any elephant trunks, but rather from the resemblance of the architecture found in the various temples.

Another writer who has been relied upon as proving that the elephant's trunk was used as an ornament is Stephens, and the figure which we have already given in the cut, which represents the tablet found upon the façade of the palace at Palenque, is given as proof. The figure, however, when analyzed, does not prove to be a trunk at all, but a divided staff or vine, the usual sign of speech, though it might be taken for such at first sight. We call

attention to the figure, and especially to the shape of the symbol or ornament above the face, and, by way of explanation, would refer to the custom, which was very common among the ancient kings of Palenque, to wear a casque or helmet, in the shape of an animal's head, but connect with it certain other symbols. Many such helmets or casques can be seen in the bas-reliefs at Chichen-Itza, Kabah and Palenque, also in the portrait columns at Copan. Stephens* also has described one as in the hands of the seated figure in the elliptical tablet in the palace at Palenque. Here "the principal figure sits cross-legged on a couch ornamented with two leopards' heads; the attitude is easy, the physiognomy the same as that of the other personages, the expression calm and benevolent. The figure wears around its neck a necklace of pearls, to which is suspended a small medallion containing a face; perhaps intended as an image of the sun. Like every other subject of sculpture we had seen in the country, the personage had ear rings, bracelets on the wrists, and a girdle around the loins. The head dress differs from most of the others at Palenque in that it wants the plumes of feathers." The other figure, which seems that of a woman, is sitting cross-legged on the ground, richly dressed, and is presenting the casque to the figure on the throne.

It might be further stated that Charnay discovered at Palenque three figures which had been covered with calcareous coating, and which were very fresh, one of which was seated in Turkish fashion and had a costume identical with the one in the oval tablet, a beautiful coliar around the neck, a cape like that worn at the present day, bracelets, dress below the girdle like the cape. The head-dress was a kind of miter covered with bars like those in one of the portrait statues, furnished with a tuft of feathers. The figure is seated, and was pointing towards the standing figure in the center. We would also by way of contrast refer to the plate which has been loaned to us by the publishers of the *World's Parliament of Religions* and which represents the elephant idol or elephant god of the Hindoos. It will be noticed that this idol is dressed or ornamented with necklace, collar, wristlets, anklets and head-dress, which resemble those on some of the figures at Copan, and that it is surrounded by a series of figures somewhat as the idols in Central America are, but it has a genuine elephant's head and trunk which has no resemblance to the ornament on the figure at Palenque. It will be noticed further that there are four hands on either side of the idol; one of them carries the naga, another a globe, another four arrows, another a bangle, another a baton, and so on. There is not an American symbol about it. The multiplicity of hands brings up a point. Are there any idols or figures in America

* Stephens, p. 114, p. 117.

which have more than two hands? In reference to this, we would refer to the idol of the goddess of death in the museum of Mexico, for we shall find that here there are four hands, two above the skull and two below, though they can hardly be compared to the arms and hands which are a characteristic of the images or idols of Buddha. See frontispiece.

The elephant's trunk has, however, been recognized by many in the so-called Chinese hook, which is a common ornament in the façades at Chichen-Itza, Kabah, and at Mitla. The hook is sometimes seen at the corners of the buildings, and sometimes projects from the wall, but is attended with many sculptured ornaments on the face of the wall. It is supposed to have resemblance to the Japanese or Chinese ornament which sometimes adorns the pagodas, but there is one peculiarity about the hook, especially that seen on the façade or ornamented wall at Kabah. Here the hook in every case projects from a peculiar ornament, which resembles in its general contour the human face, the eyes of which are sunken into the wall, and which are always seen on either side of the hook. This hidden face is one of the most novel and interesting features in the Maya architecture. It is not always as highly ornamented as at Kabah, but can, nevertheless, be seen as a prominent symbol in the ornamentation of many of the façades, as well as on the altars and in the back of the statues, and on the tablets and elsewhere, though seldom attended with the hook as at Kabah. The reader will find such a face in the ornaments seen on the façades of the Casa de Monjas, at Uxmal. Here it surmounts the miniature hut in which the idol is enshrined. The eyes and nose are plainly visible. He will find it also in the rock inscriptions at Chiriqui, and Nijapa, being here plainly visible. It was a common hieroglyphic, and suggests the idea that there was an esoteric system in vogue throughout Central America, which had for its support and perpetuity a secret society or an order of priests, which perpetuated the symbols and kept the forms and faces of the divinities constantly before the people.

The same may be said of the coil. It was one of the symbols of the nature powers—the concentric circle, signifying the sun, the arch signifying the sky, and the coil and divided staff signifying the wind. What is more, the coil is often seen in the hidden manitou faces, giving expression to the eye, and sometimes forming the ear. It is a very common symbol, was worn upon the breast of Tlaloc, is seen issuing from the mouth of other divinities, and is called the comma. It seems to be a symbol peculiar to America, and yet there may be a clue furnished by it which will lead us to the distant nations. The ornament called the Chinese hook quickly reminds us of the ornament seen upon the Chinese pagodas, just as the turbans on the figures which are seated in Turkish fashion on

the altar at Copan, remind us of the Tartar costume; and the symbol of the revolving sun on the oval or egg-like altar at Copan reminds us of the Chinese Tai Kai; as the double-headed throne, on which is seated the divinity, reminds us of the goddess Kali, who is often represented as sitting on a throne which had animal heads like this; and as certain statues remind us of Buddha in their attitude.

Shall we follow these analogies? The law of parallel development does not explain them. We abandon the elephant's trunk. We shall not insist upon the Chinese hook. But we will ask some of our readers who claim the autochthonous origin of everything in America, to explain the globe and the animal-headed throne, the attitude and expression of the idol which is now in the Trocadero museum at Paris, which is pronounced by Dr. Hamy a representation of Quetzalcoatl, seated cross-legged



Fig. 1. Egyptian Wall Scene.

as is Buddha in his images, and especially the position of the animal-headed throne and the pivot to the solstitial sun and the temple, and the peculiar orientation of the temples as compared with the palaces.

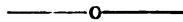
We would also ask them to account for the spread of the suastika or Hindoo fire-generator, as well as the Maltese cross. These are found all over the eastern continent in localities as far apart as Egypt and China, Hindoستان and Scandinavia, and in the western continent in localities as far apart as Florida and New Mexico, Ohio and Guatemala. The suastika from the Hopewell mound, exhumed by W. K. Moorehead, may be post-Columbian or pre-Columbian, Shawnee or Mound builder; it matters not, for many specimens of the same symbol were discovered in the mounds and in the stone graves before Mr. Moorehead came upon his important find. The distribution of this expressive symbol is so conspicuous that it impresses those who have no special acquaintance with archaeology, and calls forth frequent surprise. Prof. F. G. Wright has mentioned in *Science* that letters were sent to him from Shantung, China, and from Montana showing that the same symbol is among the mystic Chinese characters, the "Wan" meaning the "Yang Yami" or

"Tai Kai," and in Scandinavia where Thor's hammer is represented as a suastika.

The same may be said of the priestly costume, which consists of a leopard, lion or tiger skin, either thrown over the shoulders or worn around the waist; a costume which is nearly as widespread and as conspicuous as the symbol of the suastika seen on the Egyptian monuments, recognized in the tablets of Central America, occasionally found in the rare relics taken from the mounds of Ohio.

We may say of both of these articles, the suastika symbol, and the priestly dress, that they are found scattered along a line or belt of latitude which has been frequently discussed as presenting many similar specimens, and as a probable line of communication, possibly of migration, in prehistoric times; the belt in which the sun-worshipping tribes have dwelt, from time immemorial. It is claimed that the law of parallel development requires the symbol of the cross, and the revolving wheel and the fire generator to accompany sun worship; but the common sense solution of this problem does not come from forcing any theory to such severe conclusions. It is more reasonable to suppose that symbols were spread from one center to another, than to conjecture that they originated in so many different centers. The burden of proof, therefore, rests upon those who hold the autochthonous theory.

Those facts are coming before us more and more which may furnish the clue, and we seem to be rapidly approaching to a solution of the problem, but the largest liberty must be allowed until the solution is reached. The archaeologists will not put any discredit upon ethnologists, even if they hold to the opposite opinion, though it is more reasonable that new languages would arise than that the same symbols should arise in new regions, or that new inventions would appear in so many widely separated centers.



WAS THERE AN AMERICAN COSTUME?

CEREMONIAL COSTUME AND OFFICIAL REGALIA.

The subject of attire is very suggestive. Was there an American costume which we can say was indigenous; or was there such a variety of costume as to prove that each tribe and nation adopted a costume to suit their circumstances, or is it the Asiatic costume which we so frequently come in contact with and which strikes our attention because of its contrast with the European costume? Any one who has noticed the great difference between the native dress of the ordinary hunter Indian, when uncivilized, and the appearance of the same Indian when civilized and in European clothes, would at once say that the

the ceremonial costumes found in this country and those seen in Polynesia and eastern Asia as to say that it was transmitted.

I. In order to illustrate this point we shall describe the different attire of the chiefs and medicine men among the hunter tribes, such as the Mandans and Sioux, and the mountain tribes, such as the Navajos, and then take up the attire of the civilized tribes. The pictures depicted by Catlin illustrate this. In these paintings a Crow chief had a figure of a crow on his head. Four Bears, chief of the Mandans, had a head-dress of eagle feathers, horns of buffalo, necklace of birds' claws, moccasins of buckskin, leggings of deer-skin, shield of buffalo hide, bow of bone, quiver of panther-skin, lance of ash, ornamented with quills, tobacco sack of otter-skin, a pipe of red steatite, notched to show the years of his life, belt of buckskin, medicine bag of beaver. Another chief, a medicine man, called the Old Bear, had eagle calumets in each hand, a fox-skin in front of his body, and fox tails attached to his heels, moccasins, leggings and head-dress, all of them significant. The medicine man was the most grotesquely decorated and dressed. He was covered with the skin of a yellow bear, the head of which served as a mask; the huge claws of which also were dangling on his wrists and ankles; in one hand he shook a frightful rattle, and in the other brandished his medicine spear or magic wand; to the rattling din and discord of all of which he added the wild and startling jumps and yells of the Indian and the horrid and appalling grunts and snarls and growls of the grizzly bear, in ejaculatory and guttural incantations to the good and bad spirits in behalf of his patient, who was rolling and groaning in the agonies of death, whilst he was dancing around him, jumping over him, and pawing him about, and rolling him in every direction. It was unusual to have the dress so completely emblematic as this, yet the wild Indian hunters often wore upon their person those articles which could be easily recognized as symbols by all who saw them. In some cases the symbols would be a personal or a clan totem, in the shape of a bird, worn upon the head. In other cases it would be a knife upon the head and a number of feathers upon the spear, the feathers signifying the number of persons he had slain in battle. Sometimes the robe of skin would be emblazoned with pictures of all the battles he had fought, would be the chart of his military life.

This personal decoration of the medicine man illustrates an important feature of all religious symbols. The priests are generally so clothed with the symbols of their office that the form of religion which they are serving can be recognized in their dress. This is as true of the historic as of the prehistoric religions, but in the prehistoric religions of America is especially important. It needs only a little closer study of the priests' dress and the symbols contained in them to ascertain the nature of their re-

ligions. This is illustrated by the figure of the priests in the façades on the temple at Palenque, Honduras. It is still better illustrated in the sculptures of Santa Lucia Cosumalhuapa. In these sculptures we have a variety of figures arranged in pairs, the figures above to represent the divinity, the figures below to represent the suppliant to the divinity. In one we have the sun divinity above, represented by a head protruding from a ring; two coiled serpents, with rattles and forked tongues, above the head; disks for rings in the ears, heavy necklace or collar made of stones below the head; a peculiar scarf falling from the chin; across the necklace, made up of knots and bows, disks or globes; from the globe descend bands with incisions, which are full of symbols, and stones which are also symbolic; to the necklace were attached the twining, vine-like ornaments, on which are rosettes, medallions, knots, leaves and flowers. The fact that the human face protrudes through the circular disk or ring, which resembles the moon, and that the medallion has a picture of the full moon on it, leads to the belief that this is the moon goddess. In the lower part of this sculpture is the figure of a person with face upturned and uplifted hand, imploring the divinity. The breast is adorned with a globe, the hair with a disk, around the right wrist is a plain cuff, the left hand is covered by a skull; the girdle has a boar's head for an ornament, from the front of the girdle, two twisted cords around the thigh, tied with a bow and tassel, falling between the legs. In front is a small altar, on which is a human head, from the mouth of which issues a curved staff.

Head-dresses were sometimes used as kingly regalia, as well as clan emblems. Many head-dresses in the shape of masks were worn in dances. Among the hunter tribes these masks were in the shape of birds' heads, buffalo heads and wolves' heads. They show the animal totems of the people, the idea oftentimes being that the spirit of the animal had fairly taken possession of the dancers, and the attitude of the buffalo, wolf or other animal was assumed in the dance. Head-dresses were worn by chiefs, with horns of buffalo, elk or deer projecting above the head. These may have been horns of power, but generally they were clan signs or totems, indicating the clan to which the chief belonged. Sometimes the horns would be tattooed on the face. They were frequently placed on the inside of the lodges and occasionally on the outside of the houses. These horn heads were not so much clan symbols as clan symbols, yet they show whether people were hunters and animal worshipers, or agriculturists and sun worshipers, or villagers and star worshipers, or belonged to the so-called civilized tribes, as the different grades of society were indicated by them as well as by the other ornaments and accoutrements.

The necklace was also an official ornament. This was worn

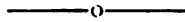
both by male and female; by the females mainly as an ornament; by the males as an emblem of honor or as a clan totem, sometimes as a craft symbol. There are necklaces which are made up of bear's teeth and bone beads. There are others which have human fingers suspended to the string; others which have medallions, some of them with portraits upon them; these are historic. Occasionally a necklace will have a medicine bag attached to it, hanging on the breast. Others will have pearls, translucent stones, copper tubes, turquoises. The necklaces of the civilized tribes are more elaborate and more significant than those of the uncivilized. Some of these remind us of the necklaces which were worn by the gods and goddesses of India, for they are made up of skulls or of images of skulls; others of them have medallions hanging at the center of the necklace, some of them being covered with the symbols of the sun, others with faces, portraits perhaps of individuals or pictures of gods. Necklaces were not often used as craft symbols, yet they were at times indicative of the class to which one belonged, either the warrior, clan elder, the priestly class, or the ruler or chief. Necklaces show the grades of civilization, as well as the personal rank and wealth of the individual; though mainly ornamental, they are also symbolic.

Collars are often seen upon the shoulders of the divinities of Mexico. Some of them are very wide and elaborate. There are collars on the dancing figures inscribed on the copper plates which remind us of the Aztecs. Charnay has described the collars which were found upon the sculptured figures at Lorillard City and M. Habel has described those found in Gautemala. Collars may be seen upon the figures of the priest in the façade of the temple of Palenque. Medallions are generally found overlapping these collars. Figures which have collars, breast-plates and other symbols have been described by Bishop Bell of Kansas, though their antiquity may be questioned.

The leggings, girdles, shirts and mantles, as well as head-dresses, were often symbolic. It is noticeable that the tunic or shirt and the mantle or cloak of the Romans, Greeks, Assyrians, Jews and Egyptians find their counterpart in the hunting-shirt and fur or skin mantle of the aborigines of America. These were worn by the hunters as well as by the medicine men, and were common articles of clothing, but became afterward the symbols of the priestly office; for the priests in Mexico, Central America, Assyria and Egypt are always represented as being clad in a mantle made of animal skins—tiger, leopard, bear, or some other animal.

The girdle was also an article of dress which became official. This girdle was used by the hunter for the purpose of carrying his knife, his medicine bag, his tobacco pouch and pipe. The girdles of the Mexicans became so symbolic that the priests are

represented as wearing the most elaborate kinds, and carrying suspended to them all kinds of ornaments. The moccasin and leggings were not so symbolic as the girdle or mantle, yet the moccasin was used as a symbol of his clan by the hunter. It differed from the sandal of the Cliff dwellers, and the sandal of the Cliff dweller differed from the footwear of the Mexicans, showing that the clan emblem and national life, the social grade, as well as the office and rank, were all to be learned from a study of the footwear as well as the head-dress. This is illustrated by the leggings of the Navajo Indian who was dressed and adorned to look like one of the Navajo divinities called *Dsilyi Neyani* (after his toilet in the house of the butterflies). The legs and fore-arms were painted black to represent the storm cloud, with white zigzag streaks to represent the lightning. Small objects to represent wings were tied to the arms, downy eagle feathers to the hair. Necklaces of coral and collars of beaver skins hung around the necks, a girdle of disks around the body, a fawn-skin bag filled with cornmeal in one hand, plumed wands with the shaft of different colors, to represent the north and south, in the other hand. This figure shows that every article of dress was at times regarded as symbolic, even the colors were symbols of the nature powers. He was a messenger to call the people to the sacred dances. He followed the lightning trail to the house inside of a black mountain. This house was two stories high and had four doorways, which were covered with trees for doors. The trees of different colors, east, black; north, white; west, yellow; south, blue.



PALEOLITHIC NOTES.

The discussion is still going on as to the division between the paleolithic and the neolithic age. The absence of the pottery from the paleolithic age is supposed to be distinctive, but the archaeologists array themselves upon one side and the ethnologists on the other of this subject, Professor Boyd Dawkins, M. Cartailhac, M. Salomon, M. Reinach, in Europe, and Professor H. W. Haynes and others, in this country, favoring the distinction, and M. Dupont, M. DeNadaiac, M. Fraipont, in Europe, and Dr. Brinton and a few others in this country on the other side. The knowledge of pottery is doubtful, for the fragments of pottery discovered in the quaternary beds might have been introduced through fishers, or by the actions of burrowing animals, just as Professor W. H. Holmes claims that the rejects of recent work shops were introduced in the grave beds in America. The paleolithic age is having a hard time to hold its own, but a single discovery may set the question back where it was, or may unsettle the distinction and leave the two ages without a line between them. The specialists in that department are doing good work, and we trust to their candor and honesty. It is still an open question.

BOOK REVIEWS.

World's Parliament of Religions. An Illustrated and Popular Story of the World's First Parliament of Religions, held in Chicago, in connection with the Columbian Exposition in 1893. Edited by the Rev. John Henry Barrows, D.D. Chicago: The Parliament Publishing Co.

The great event of the century, from a religious point of view, was the holding of a parliament of religions in connection with the Columbian Exposition. The parliament has been criticised, and it has been claimed by some that it has had an evil influence, especially as some of the foreign visitors arrogated so much superiority for their own faiths, and returned to their own lands only to draw invidious comparisons. A part of this complacency is due to the adulation which these strangers received at Chicago, an adulation which few religionists from this country would expect to receive if they were visitors in foreign lands; but the greater part is due to a misinterpretation. It has been said that there were not five persons in the vast assembly who had read the life of Buddha; so it was held that the acquaintance with his doctrines was proportionately small, the intelligence of the vast number of divines having suffered a partial eclipse by a sudden test which was applied to a miscellaneous audience. If this is the method of judging, and if there was no appreciation of the impartial and liberal spirit and of the real intelligence which lay underneath that test, we pity the judgment of those professed scholars from foreign lands, for they have not the least conception of the character of the American mind. There was, to be sure, a smack of old wine when the old learning was exhibited to the admiring audiences, but how does this compare with the sparkling water which bursts from the fountain in nearly every Christian home in this land? Would the women of America change places with the women of India or China? Would we exchange the prospects of childhood here with that of childhood in the far east? They criticise our beef-eating from a ceremonial standpoint, and our institutions from their own old world standpoint; but when they make our religion responsible for the evils of society, including drunkenness, they give us a rule for judging which does them and their system far more damage than ours, for the very evils which are opposed by our religion are upheld by theirs. The despised Jew has been heard. He is more respectful than the Mohammedan, and more tolerant than the Hindoo. Let him be heard. The greatness and influence of Moses is defended from Ingersoll attacks by the means. The science of comparative religions does not favor throwing away all that we have and leveling everything to the dust, but rather the building higher, stronger and better the systems which we have, upholding the best elements of faith, and seeking the truth in all sincerity and candor, wherever it can be found.

This was the spirit which ruled the parliament. The book is actuated by the same spirit. Let it be read. If it is not read, let the engravings be studied. These show that art and architecture have reached a high stage in other countries, but the worship of idols still continues, and is even defended by the leaders of thought. The carved figures on the temple walls at Tanjore, the carved bull at Mysore, the Hindoo temple at Oodey-

pore, the Confucian temple at Ningpo, the old tower in Foochow, the tower temple at Hongchow, the pavilions at Bangkok, Siam, the temple at Paknam, the pagoda at Mandalay, the bronze statue of Buddha at Kamakura, Japan, the Shintoo temples at Tokio, Japan, the panels representing Ganapati at Ha'abede, India, are excellent selections to exhibit the "worship in stone," which abounds far and near, and to show what the religious sentiment has accomplished there was only one thing lacking. That is, America should have been exhibited as eminently religious. This would have made the parliament complete. There was a genius which ruled everything at the World's Fair and which has perpetuated itself in books and engravings, but what is to result? Will men settle down to the servitude to Mammon again, and forget that art and religion have always been associated? There is a progress which should go beyond politics, and which should throw off the bondage of party and sect. That progress is to have its free scope under the liberty which is enjoyed in America. The awakening of mind and the broadening of vision has already begun. A stronger religious faith should follow. The contrast between these idols and architectural ornaments, and the portraits of the living men and women, is very instructive. The wonder is that any of these intelligent looking persons should undertake to defend the worship of idols or to compare the effete systems of the east with the progressive systems which prevail at the west, for nowhere do we find such pure spirituality.

Canada's Intellectual Strength and Weakness. By J. G. Bourinot, C.M.G., LL.D., D.C.L., etc. Montreal: Foster, Brown & Co.

The learned president of the Royal Society of Canada, also secretary of the House of Commons at Ottawa, in publishing this monogram confers a boon upon all who seek information respecting the status of "Literature, Education and Art in Canada." First delivered as a lengthy address before the Society, it is now enriched with a copious series of bibliographical and critical notes of great value. This quarto of over one hundred pages, with astonishing brevity yet fullness, with much detail yet no little philosophic generalization, and with a pleasing style, terse yet flowing, will be welcome to many an American reader, who, we regret to say, is usually in great ignorance of what our Canadian brethren have done, or are about, in scientific and historical research, and in literary achievement. We doubt, for instance, if most of the readers of THE ANTIQUARIAN know that the clever creation of "Sam Slick" originated in a Nova Scotian brain. "Canada, with all thy faults I love thee still," just expresses the impartial way in which Dr. Bourinot treats the complex problem of strength and weakness. On the secret side, Canada, is giving the world a Dawson, a Sterry Hunt and an Ekhardt Billings, and in historical matters a Bourinot, a Haldimanton and a Kennedy for every popularly known and warmly recognized by our republic of sources and letters. The bibliographical notes attest the learning and painstaking industry of Dr. Bourinot, already witnessed to in his "Cape Breton," his "Constitutional History," and other elaborate works. Indeed, we may differ somewhat from his views, albeit admiring his serene and true patriotism to the Dominion and the old mother flag, for we have somehow believed that for mutual advantage a future day would unite us as one country. The Royal Society is doing an effective work in advancing the cause of higher education, and particularly in creating and stimulating

a regard for scientific investigation and historical research, among the people of Canada. Nor are the French savants less interested than the English scholars in the work.

W. C. WINNLOW.

Greece in the Age of Pericles. By Arthur J. Grant. New York. Charles Scribner's Sons. 1893.

There are several points of great interest to American archaeologists brought out by this book. The author, in speaking of the Eleusinian mysteries, says that the initiations were mimetic representations of Demeter and Persephone, the goddesses of the earth and corn, assisted by gigantic images and alternations of light and darkness. There was a similar conception among the ancient Mayas, for the dances were imitative of the motions of the corn (maize), the feet stationary, but the arms and body waving as the maize does in the wind. The alternations of light and darkness gave rise to many of the myths. Thus the law of parallel development is illustrated. The history of land ownership in Greece is given, as well as that of religion. The Spartan system was founded in military success as much as ever was the Iroquois confederacy, but it ultimately gave way to the supremacy of Athens. The legislation of Solon changed the monarchy to a republic, and the world of letters and art began to appear. The Athenian democracy is described. It was a pure democracy—actual and direct management of the state by the people themselves. There was no check upon the absolute power of the demos, or people. It would be well for American citizens to read this little book, and learn from it how society rises from low conditions to a high state without the aid of kings. There are practical lessons to be learned from the book.

The Indian and the Pioneer. By Rose N. Yawger. Syracuse, N. Y.: C. W. Bardeen. 1893.

Notwithstanding the many books which have been written about the Iroquois, this one gives some new things about them, and the popular way of telling the old things makes it interesting. Miss Yawger is familiar with the people, and has brought out some interesting facts in reference to the customs, articles of dress, relics, dances, modes of life and religion, and has given several specimens of oratory. She gives a novel interpretation of the Iroquois pipes. She says that the fox pipe belongs to the fox clan; but if the fox on the bowl faces the smoker, it belongs to the Cayuga tribe; if it is looking up, it belongs to the Seneca tribe. The dress is described in detail—necklace, the bands around the knee, the wrist bands, the arm bands, the moccasin, which she says is a most beautiful and neatly-fitting article of dress. There were eight dances, as follows: great feather, thanksgiving, planting, strawberry feast, harvest, green corn, green beans, maple. The dream feasts and war feasts are described. Woman's position is also spoken of. The property of the woman was separate from that of her husband, but was never alienated from the tribe. The author has hardly touched the deep well-spring of mythology. If she knows anything of its existence, she abstains from it, and very pleasantly announces that Mr. Beauchamp has a volume in preparation on the subject. The publishers have put the matter in excellent shape; still it would have been better, in a literary point of view, if they had published the first volume separately, for the second volume, which is bound in with it, adds nothing of value, as it is mainly occupied with high schools, sanitariums, military academies, parade

grounds, which have no connection with the Iroquois or the Indians. The monument to Red Jacket is appropriate, but the group of cadets can not properly come under the head of either Indians or pioneers. The best part of the book is that it contains the various specimens of Indian oratory, e. g., the speech of Logan, and has verified the speech as genuine; and has given the history and nationality and described the character of the great Mingo chief. "The best specimen of humanity I ever met, either red or white," is the testimony of one who knew him.

Louisiana Studies. By Alcee Fortier. New Orleans: F. F. Hansell & Bro. 1894.

The author of this book is professor of the French language in Tulane university and president of the folklore society in New Orleans, and a gentleman of fine literary taste. He has gathered into part first a great deal of information about the literary workers of Louisiana. He commences with an epic poem in French, written by Julien Poydras in 1779, followed by Mr. Gayarre in 1830, Victor Debouchel, 1841, historians; by A. Lussan in 1839, a dramatist; Dr. Testut, a novelist. The great man of Louisiana Audubon, the naturalist, who was born in 1781. The historical collections of B. F. French will not be forgotten. These were all of the first half of this century. In modern days, the names of George W. Cable, Dr. Mercier, Sarah A. Dorsey, Dr. W. H. Holcombe, and others. Norman, the archaeologist, is mentioned, but nothing is said of his great work. The sketch of the Acadians of Louisiana and their dialect occupies part second, part third is given to the history of education. The volume is instructive, and, as a contribution to local history, is valuable. It throws a search light into the inner mental life and literary circles of New Orleans and vicinity, which brings out many unknown persons, but reveals the fact that the same taste and literary activity has prevailed there as in northern cities.

Spanish Pioneers. By Charles F. Lummis. Illustrated. Chicago: A. C. McClurg & Co. 1893. 292 pp. Price \$1.50.

The author of this book has a way of making startling assertions, and carrying them out by means of striking illustrations. He secures the attention of the ordinary reader, and gains his end, even if he destroys the confidence of the more critical in his impartial judgment. His assertions relate, first, to the superiority of the Spaniards over the English in their discoveries; second, to the great superiority of the conquerors Cortez and Pizarro and the inferiority of the native princes Montezuma and the Incas, third, to the great rapidity with which the Spaniards possessed all the interior parts of the continent, fourth, the superior intellectual activity of the Spaniards, who established a galaxy of eminent writers. The greatest discoverers, the greatest soldiers, the greatest pioneers, the grandest scholars and the greatest civilizers, were Spaniards. Compared with them, all other nations are insignificant, Portuguese, French, English. After the discovery by the Spaniards, he selects such startling events as the wanderings of Cabeza de Vaca; the attack upon the rock Acoma, which he calls the storming of the sky city; the leap of Alvarado; a search for El Dorado, or the story of the modern jacinths or the golden fleece. Pizarro is called the "swineherd of Fraxillo, and the man who would not give up." The golden ransom of the Peruvian Atahualpa is described, but the captive king is accused of treachery and Pizarro is defended. The romance of American history is really

the subject of the book, and the author is evidently bound to make the Spaniards the heroes of the romance. It is a one-sided view which the author takes, but it gives a certain charm to the style, which will attract readers and lead them to follow the writer through the entire history. The publishers have added to the interest by the use of several well-selected plates, among them the portrait of Francis Pizarro, which is used as a frontispiece.

Religion and Myth. By Rev. James McDonald, author of "Light in Africa." London: D. Nutt; New York: Charles Scribner's Sons. 1893. 240 pp.

Primitive man and the supernatural, guarding the evolution of deity, sacrifice of kings, taboos, witchcraft, prophecy, acts of devotion, myths, are among the subjects treated of in this book. The deifying of kings is one of the most interesting facts brought out, but the sacrificing of kings, or killing the god, that his spirit might enter his successor, is very novel. There was a transference of divinity to the substitute. All sacrifices were made by fire. This throws light upon some of the ancient customs of Mexico and of the Mayas, where the victim of sacrifice was fed and clothed as a king and afterward immolated. The mysteries are performed in honor of the budding powers of nature as a divinity. These ceremonies are performed while the crops are still green. The festival of the May-pole prevails. It was common to preserve the skulls of ancestors, as the skulls were supposed to be the abode of the departed soul. Each man sacrifices to his own ancestors; each clan, through the magician, to the heads of the clan; each tribe to the ancestors of its chief. In this way sacrifices to kings and of kings occurred. The book needs to be read to be appreciated. The same customs that are described in Frazer's *Golden Bough* are found in Africa, and similar customs and notions prevailed in ancient America.

James Evans. The Inventor of the Syllabic System of the Cree Language. By John McLean, Ph.D. Toronto: William Briggs. 208 pp.

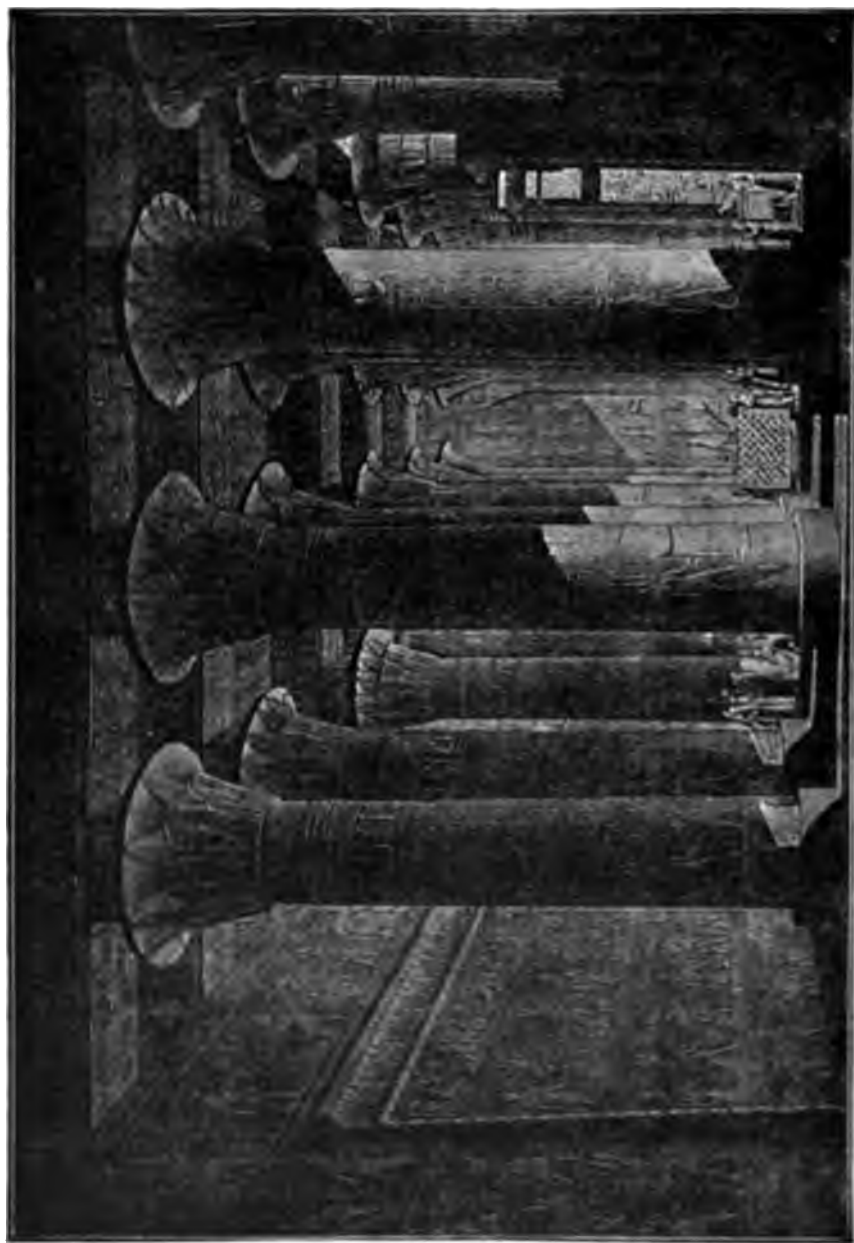
Mr. McLean, the author of this book, is well known in Canada as a missionary and contributor to papers and magazines, and is the author of a book called "The Indians of Canada." The subject of the memoir was also a missionary among the Indians, the Crees, and was the inventor of the Cree syllabic system. He labored under great difficulties in this, inasmuch as there was no type-foundry and he was obliged to cut the letters or characters out from wood with his jack-knife, and then gather lead from tea-chests and so cast his own type. The alphabet is described, and several pages printed in the book as specimens.

The Land of Poco Tiempo. By Charles F. Lummis. New York: Charles Scribner's Sons. 1893. Illustrated.

The title of this book means "pretty soon," and fitly expresses the sun silence and adobe that is in New Mexico. The picture brought before us is comparatively modern. The city in the sky is inhabited by modern Pueblos. There are good looking girls in modern costume among the Indians. The walled cave rooms are there; the Apache warriors are there; the penitent brothers are there. Ancient and modern, savage and civilized, pagan and Catholic, mingled together. The folk songs set to music are given in the book. These are mingled with the songs about the railroad, translated into Spanish. The story of Quivira is also told. It is an entertaining book. The articles, which were first published in *Scribner's Magazine*, have been gath-

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CEREMONIAL PROCESSION IN AN EGYPTIAN TEMPLE From a Restoration by the French Commission.)

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THE NEUTRAL NATION.

By W. M. BEAUCHAMP.

After the Mohawks left the valley of the St. Lawrence, the Canadian branch of the Huron-Iroquois family may be conveniently divided into the three bodies known as the Hurons, the Petun or Tobacco Nation, and the Neutral Nation, lying on the south of these. All these bodies were composed of separate nations, quite as much as the Five Nations of New York, but confederated in a union similar to that famous league. When first known the Hurons had withdrawn their outlying towns on the south and east, on account of the Iroquois war, and dwelt in quite a compact body between the Georgian Bay and Lake Simcoe, occupying positions along the low hills of the region, but not the bottom lands. They had their common name from the French, but according to the Relation of 1639, their language was called Ouendat, equivalent to the present Wyandot. In that Relation also, their four nations are called Attignaouantan, Attigneenongnahac, Arendahronons and Tohontaenrat. In other places the enumeration is somewhat different, the Ataronahronons being reckoned as one, and the Tahotaenrat as an inferior nation with but one town. Their country is full of the ossuaries made at the dead feasts, and the larger part of these cover a period of about fifty years, within the seventeenth century. If the rate had been uniform this would give a period of about one hundred years.

A broad valley separated the Petuns from the Hurons. These were fewer in number, and their downfall at once followed that of their Huron neighbors. Their name of Tobacco Nation came from their cultivation of the Indian Tobacco, *Nicotiana rustica*, still raised by the New York Iroquois, and used in their sacred feasts. They were well known as the Tionontaties, and still later as the Wyandots.

A wide interval separated the Petuns from the Neutrals on the south, whose country extended along the north shore of Lake Erie, reaching Lake Ontario and having its southeastern boundary in New York, where they had a few towns for a while. They were a numerous people, but being neutral in the war between the Hurons and Iroquois, they were not obliged to live as compactly as the Hurons, and some of their towns were far apart. They were sometimes called Attikadaron, but their own name was Akouanake. The Hurons called them Attiwandaronk, "A people with a language a little different." They had different burial customs from the Hurons, though the ossuary system was quite prevalent in the eastern part. The French were delighted with their country and praised it highly, contrasting it with the colder parts of Canada in which they had lived. Game was abundant, fish filled the streams and vegetables grew freely. Their hunting was wasteful, their habits were indolent, and their morals low. Abundant food gave them physical strength, but they made war only against the Nation of Fire in Michigan.

Why they were not good canoe men does not appear, but they undertook few long journeys except against the Nation of Fire. Formerly they had waged war against some nation towards the Gulf of Mexico, from whom they obtained shell beads. As elsewhere, mad men were a privileged class among them, and many were shrewd enough to assume this character. The "insanity dodge" is old. They were both brave and cruel, and it was not fear that kept them at home, but it may have been indolence. It was the policy of the Hurons and Petuns, however, to monopolize trade, and this may have been the reason why they traveled so little.

The Neutral country has been less systematically studied than any part of the Iroquois country near the Great Lakes. Mr. A. F. Hunter has accurately mapped and described the country and towns of the Hurons and Petuns. Nearly all the sites of New York are well known, whether of the Five Nations or Eries, or any people kindred to either. The Andastes, of Pennsylvania, have received some attention, but it is but recently that any attempt has been made to explore or describe the Neutral towns. Some years ago Dr. Tweedale gave the writer an account of the Southwold earth work near St. Thomas, and it has been described several times since. Its double banks make it of special interest, as a single example of this kind occurs in both Onondaga and Orleans county, N. Y. The latter is probably a Neutral site, one of the few east of the Niagara River. Ohio shells have been found in it. Dr. Tweedale reported a line of earth-works and other sites westward from St. Thomas, differing much from those of the Hurons. Some of his relics were of the Iroquois type, but his work was of a somewhat general nature. He reported this fort as circular, whereas it is

elliptical, but he seems first to have called attention to it. It contains fire-places and pottery.

More recently the Canadian Institute has taken up the matter, and with some good results. The Southwold earth-work has been examined and plotted, and some others have been located and described. The Report for 1893, has a valuable article on the Neutrals and their country, by Mr. James H. Coyne, in which an attempt is made to give the general location of some villages mentioned by the Jesuits. With one exception there is no definite assignment of sites in this, and that one may be only partially correct. Mr. John Gilmary Shea had already published early accounts of missionary explorations, with some conjectures of his own, and the subject is likely to emerge from its long obscurity. We have all the historic material. What is now needed is as thorough an examination of all village sites, with a record of their geographical situation, as has been made in the territory of other early nations. The best results will not be attained at once, for while a site and its general age may be quickly determined, it will require some care to tell what its relations are to others, far or near. A large portion of the towns occupied in the seventeenth century should yield European articles, and it is important to know how many will or do. It is true the Neutrals saw little of Europeans, but the shrewd and trading Hurons supplied what they wanted at a good profit, and opposed missionary visits because these would destroy their monopoly of trade. The missionaries themselves distributed articles in the towns they visited.

When Champlain was in that part of Canada, among the Hurons, in 1615-16, he wished to visit the Neutrals, but was dissuaded from doing so. He described them as a powerful nation, with 4,000 warriors, and allied to the Cheveux Relevez, who were two days' journey north of them. On his map they are placed south of Lake Erie, or the stream which represents it. This error is simply the result of his ignorance of that lake, his description being sufficiently clear.

Brule, the companion of Champlain, was there at an early day, and told wonderful stories about the Neutral country, through which he must have passed when on his way to ask the Andastes to aid in the Huron expedition of 1615 against the Iroquois. The visit of De la Roche Daillon, in 1626, resulted from this. He left the Huron country October 18, 1626, accompanied by two Frenchmen, passing through the Petun country. This would give a southwestern route. A Petun chief offered to be their guide, and furnished porters. On the sixth day the first Neutral village was reached, and four others were visited before Ounontisaston, the chief town, was entered. At a council he made presents of small articles, and was adopted by Souharissen, the chief of the whole country, under whose authority were twenty-eight villages, besides many hamlets.

Daillon remained alone in their country for more than three months, when the Hurons became jealous of his efforts to bring about a direct French trade. The Neutrals were willing to send four canoes under his guidance, but knew not the way to the French trading post themselves.

In the face of Daillon's words it is rather strange that Mr. Shea should have thought the desired river was the Niagara, which was wholly within their boundaries. "Yroquet, an Indian known in those countries, who had come there with twenty of his men hunting for beaver, and who took fully five hundred, would never give us any mark to know the mouth of the river. He and several Hurons assured us well that it was only ten days' journey to the trading place; but we were afraid of taking one river for another, and losing our way, or dying of hunger on the land." The Niagara was already named by the Neutrals, and familiar to them. Daillon simply meant that if they went in canoes on Lake Ontario, they would have to explore every bay and river along its shores in searching for the St. Lawrence. So many are these, and he knew not how many, that the task seemed too great. Were not this sufficient his previous words are quite precise. His companions had gone, and he "remained, the happiest man in the world, hoping to do something to advance God's glory, or at least to discover the means (which would be no small thing), and to endeavor to discover the mouth of the river of the Hiroquois, in order to bring them to trade." He wondered that no Frenchmen had been sent there, "for there is scarcely any inducement to go to trade with the Hurons over so many difficult rapids, always in danger of being drowned, and then to make a six days' journey from the Hurons to this country, crossing the lands by fearful and terrible routes as I have seen." French traders ought to be sent directly to the Neutrals, "for they can proceed by the lake of the Hiroquois to the trading place in, at most, ten days. The lake is theirs also, the one on one side, and the others on the other. But I see one obstacle, which is that they know little about managing canoes, especially at rapids." This extract also shows that the Neutral country took in much of the north shore of Lake Ontario, scarcely any of the south. There were, however, several Neutral towns east of the Niagara River, and one of these was called Ouaroronon, "one day's journey from the Iroquois, their relatives and friends." He did not visit them, but they visited him to his cost. Shea correctly says that this was a tribal name. The Onondagas now interpret it "a separate people." Though related to the Iroquois their political affiliation was with the Neutrals.

After Daillon was obliged to leave, there was no attempt to enter the Neutral country until Brebeuf and Chaumonot commenced their journey from the mission of Ste. Marie, November 2, 1640. This was on the northern line of the Huron territory,

and after being four nights in the woods they came to the first of the Neutral towns, called Kandoucho. They named this All Saints. From the length of the journey they probably went nearly due south, and the village may have been a little north of Burlington Bay, where there are ossuaries with European articles. It has been thought to have been N. D. Anges, which was on the west side of Grand River apparently, and too far west. From Kandoucho they passed through several hamlets and villages, and came to Tsohahissen's town, the capital of the country. This name seems an official title, and the town was probably the one which Daillon called Ounontisaston, which might then have occupied a different site. St. Alexis has been proposed for this, as being near the middle of the country, reckoning from east to west, and not far from the present town of St. Thomas. This nearly coincides with the Southwold earth-work, which may have been occupied many years earlier. It is well known that towns were frequently removed, and there were several earth-works in this neighborhood. As the mission in a general way was called the Mission of the Angels, it is quite likely that the village which the travelers called N. D. des Anges was the capital, and on the old map this is nearer the true center of the country.

They passed through eighteen towns and villages, to all of which Christian names were given, and in ten they gave some instruction; but their reception was not cordial, and they started back for Kandoucho. The old maps are of service here, and one may be noticed.

One of the two Jesuits who traversed the Neutral country in 1640-1 was Chaumonot, who went to Onondaga in 1655. Father Creux is said to have been at Onondaga the following year, associated with him in missionary work, but his name does not appear in the usual lists. Creux, or Creuxelius, as he chose to call his name in his publications, issued a map in 1660, in which Indian names are given with Latin terminations. On this are several Neutral towns under the names bestowed upon them by Brebeuf and Chaumonot. If he was associated with the latter, he probably received them from him, but they may have been on a map made by Chaumonot himself. Mr. Coyne describes a map of Sanson's of 1656, which differs from the one mentioned by Justin Winsor of that date, but which is much like Creux's. In a general way this map of 1660 will help us in our knowledge of the Neutral country. The name of the "Gens Neutral" appears west of Toronto, extending towards the foot of Lake Huron, thus making the territory take in all of that part of the province of Ontario lying to the south of this line. About Toronto is P. Annachiaius, and at Burlington Bay is P. Oton-taronius, otherwise the *pagus*, canton or country of the tribes names. The Latin termination may be dropped. Near the Niagara River the name may refer to the cataract or the Neu-

tral village there. The villages given are St. Francis, placed near the present site of St. Paul's, in Perth County; St. Michel, between Chatham and Lake St. Clair; St. Joseph, in the southwest part of Kent County; St. Alexis, near St. Thomas; and N. D. Anges, west of a large river, but two-thirds of the way from St. Alexis to St. Francis. It was probably on the west side of Grand River. The "Natio Felum," or Eries, was placed southwest of Lake Erie. East of the mouth of the Niagara River was the P. Ondieronii, the Aondironnons, a Neutral nation destroyed by the Senecas in 1648; and just south of this P. Ondiasacus, about Buffalo, probably another Neutral tribe.

The missionaries were fairly treated only at Khioetoo, or St. Michel, in the southwest corner of the Neutral territory. There dwelt a foreign nation, called the Aouenrehronons, who had formerly lived beyond the Eries, on the borders of the Iroquois. Flying from them they settled in this unoccupied corner of the Neutral country. They seem to have been those who, in 1626, occupied the village of Ouraronon, a day's journey from the Iroquois. Half way from the western border, on their way to Kandoucho, or All Saints, the missionaries were detained twenty-five days by snow, at a place called Teotongniation, or St. Guillaume, where they made a comparative study of the Neutral and Huron dialects. Thence they went directly to the Hurons. Neither of these towns are on the map, but Mr. Coyne's conjecture that the latter was near Woodstock seems good. He also thought a ruined house in Middlesex County, about forty miles from Sarnia, was the mission of St. Francis, but the two persecuted missionaries did not build stone chimneys eighteen feet high, or lay out gardens in the winter; nor was there any permanent, or even later work among the Neutrals.

A map made nearly a quarter of a century later has some interesting features, bringing out the confederate system of this people. At the head of Grand River is "Atiragenra, nation detruite," not far from the mission site of N. D. des Anges. It suggests a Huron people, but is much too far south. "Antouaronons, nation detruite," is on the west side, near the mouth of the same river, and "Niagarega, nation detruite," on the east side. "Ka-Kouagoga, nation detruite," is on the east side of Niagara River, and this is commonly understood to refer to the Kah Kwahs.

After the overthrow of the Aondironnons, in 1648, other portions of the Neutrals soon felt the power of the Iroquois. The conquest of the Huron and Petun countries inflamed their desire for blood, and their plan of adopting captives was an incentive to war against their own kindred, who could be readily assimilated. So the Neutral territory in Canada was invaded by the Iroquois in 1650, and two large villages on the frontier were captured in the autumn of that year and the spring of 1651. The latter was that of Teotondiation, possibly that which Brebeuf

called St. William. This would hardly agree, however, with the location of the latter midway in the country, unless the Neutrals at once adopted the common practice of destroying outlying and smaller towns, concentrating their forces in those which were larger. Similarity in names is often misleading. However this may be, the effect on the Neutrals was terrible. They left their homes and sought the wilderness, where most of them perished from hunger. Some slight efforts were made looking to resistance, but as a nation they had disappeared in 1653, and their land became an Iroquois hunting ground. Large numbers were adopted by the conquerors. Father Fremin found many at the Seneca village of Gandougare, or St. Michel, in 1668, the village being made up of remnants of three different captive nations. "The first nation is called Onontioaga, the second the Neuter, and the third the Huron. The first two have seldom, if ever, seen Europeans."

If there were indeed forty Neutral villages at one time, this would give nearly three hundred sites in a century, but if we allowed half the number and doubled the time there would still be a fine field for the archæologist. It is, and was, such a country as pleased the Huron-Iroquois family, and the population may not have been exaggerated.

It remains to be seen what has been found in the Neutral territory. There has been some random collecting of articles of an early day, and these scarcely differ from those on the south side of Lake Ontario. Articles of striped slate are especially abundant in Middlesex County, but these were not made by the Iroquois family. Abundant flint chips are found near Lake Erie, and very curious pipes of a soft grey stone near Hamilton. Clay pipes are somewhat frequent, but this is hardly true of earthenware in general, probably because fragments have been overlooked. A few earth-works have been discovered, mostly in the neighborhood of St. Thomas, whence they seem to have extended westward. It is proper to call the sites near Toronto, Neutral rather than Huron, where they belong to either, as some of them do not. These are mostly early, and there are a few ossuaries. Farther west, in Beverley, about seventeen miles from Hamilton, the most notable ossuaries were found. These were long and wide trenches, and had many European articles. In this town iron axes are particularly abundant on some sites, and stockades occur. The shell beads are mostly discoid, a western feature, and bone and horn articles occur as on all Iroquoian sites. An ossuary in Humberstone, a few miles from Port Colborne, seems the western limit of this mode of burial, in that part of Canada.

The Hurons did little in making earth-works, nor is it probable that the Neutrals retained them when first known to the French. Thus far the forts of this kind in their country have yielded no European articles, but have those characteristic of

THE NATIVITY OF MAIZE.

BY JAMES WICKERSHAM.

The letter of Rev. Joseph Edkins, of Shanghai, China, published herewith, is very interesting when taken in connection with the recent monograph by Prof. Harshberger on the special study of maize or Indian corn. After a careful inquiry into its probable origin, Prof. Harshberger concludes that its earliest home was in Central America, whence it spread north and south over the continents of America, and was first taken into the Old World after 1492. Dr. Edkins and Dr. Bretschneider deny its Chinese origin, and thus quite strongly add testimony confirmatory of the conclusion reached by our American specialist.

On the other hand, Margaret Sidney, in the *Arena* for June, 1893, in speaking of the Asiatic origin of this valuable plant, says: "The array of names hospitable to the idea that corn was of eastern origin is a good one; M. Bonafaus, of Sardinia, in his labored treatise, published in Paris in 1836, declares it was of Chinese origin; Bock, a botanist, in 1532, is equally positive that it came from Arabia, and he calls it the 'wheat of Asia;' Ruellius also asserts that it came from Arabia; Crawford, in his 'History of the Indian Archipelago,' says that 'maize was known there under the name of *Djagoung* long before Columbus discovered America;' while as to the Chinese enthusiast Li-chi-tchin, he thinks that he has the strongest case of all for believing the maize to have originated in China; Fuchsius sets it down as coming from Asia and Greece," etc.

Legge, in translating the Chinese classics, translates the word "*liang*" as maize, thus lending his name to the belief that the plant flourished anciently in China. "This," says Bretschneider, "needs correction, for '*liang*' means the *Setaria Italica* or *Panicum Italicum*." Upon an examination of Williams' dictionary of the Chinese language, we find this definition of the word "*liang*:" "The common spiked millet or canary seed (*Setaria Italica*); the only difference between it and the "*suh*" is its size and the awns on the spikes, this having the largest grain and longest awn; this distinction is not now maintained, and the application is disused." The character standing for "*liang*," Williams says, is derived "from rice, and the next contracted, which some say was given to it from the region near Sz'ch'uen, where it was early grown."

Upon turning to the word "*suh*" we find that the character in question is derived "from rice and west," and that the word means "rice in the husk, paddy, and much used in Fuhchau; it was a general name for grains, and is still applied to the spiked

millet (*Setaria*) and maize (*Zea*); the seed of panic grasses; small sand; rent in tithes." Its next meaning is given as "Indian corn or maize."

It seems, then, that the characters in Chinese writing for *Setaria*, or millet, and maize are derived from the same source, a combination of those for "rice" and "west;" that millet (*Setaria*) is called "*liang*," and "*suh*;" that maize is known as "*suh*," which is the generic term and includes "*liang*." If corn was named "rice of the west" by the Chinese, we are not yet driven to conclude that it came into China via Europe after 1492, for Williams says in his definition of "*liang*," that it was anciently grown in the region near Sz'ch'uen; in other words, may the character for corn not be properly translated "the rice of Sy'ch'uen?"

SHANGHAI, January 6, 1894.

DEAR SIR: I received your letter to-day, and this evening I have referred to Bretschneider's *Botanicon Sinicum* for the word maize. This work was published at Shanghai, February, 1892, under the auspices of the Chinese branch of the Royal Asiatic Society. It contains 468 pages. I place full confidence in Dr. Bretschneider's identifications of plants, for he is in constant communication with the best botanists in St. Petersburg, London and Paris. He says: "I may observe that maize, an American plant, was unknown to the ancient Chinese." Legge, in the Chinese classics, translates the Chinese "*liang*" by maize. This, says Bretschneider, needs correction, for "*liang*" means the *Setaria Italica* or *Panicum Italicum*. It is the chief food of many millions of human beings in North China and in Italy at the present time. Sorghum, now called "*kas liang*" in North China, was introduced from India into China in the third century, dating from Anno Domini. Li-shi-chen, whom you mention as believing that ancient China possessed maize, lived in the sixteenth century, so that the maize he knew might be of American origin. But, I believe, he does not mention maize, nor, I believe, does Kæmpfer speak of it in his *Amoenitates Exoticae*. The use of maize as food has spread rapidly in China during the last century. It is a great favorite with the poor on account of its cheapness. China has received from America potatoes, tobacco, maize and silver.

2. Your second question refers to the Indian stone mill, *metate*. It is, as you describe it, a roller, and much less efficient than a revolving mill, but it is used to make rough meal by rolling pressure on a level surface. The Chinese use round grinding stones, very thick and heavy, which produce fine meal by circular revolution. For pressing oil, they have a revolving roller, which is always at a right angle to the under stone. It is much more ingenious than the Indian *metate*. The fact is that China has always been a borrower. Their agricultural implements

are ingenious, but not necessarily invented by themselves. Just now there is a large demand for Japanese-made spinning machines based on European ideas. There is no *metate* known here. Language shows that the Dakota Indians were of Asiatic origin.

3. The Chinese instruments of punishment are of bamboo or wood. There is one called *chi* of bamboo. The criminal lies flat. The man who inflicts the penalty is called *tsau li*. It is two feet long and is held in one hand. The *chang*, five feet long, is used with two hands to beat the criminal on the back of his legs. Only four stripes are allowed. Its use leaves scars on the thighs. Any person who has such scars is not allowed to pass the Great Wall, nor can he in the army become an officer. The *kwan* used in camp to beat soldiers is in shape something like the Indian war-club. It is two or three feet long. It makes no scar, so that he who is punished with it is not disqualified from rising in rank. Of weapons used in the army, there are eighteen kinds. Many of them are of very old shapes, but I have not at hand a description of them.

4. You ask regarding funeral mounds. In China the depth is important. The depth beneath the surface is as important as the height above the surface. The tomb of an emperor must have a water path inside, to insure the continuance of good luck. For the most distinguished in an imperial line, a tomb a mile round is sufficient. Emperors less distinguished have smaller mounds. The emperor's coffin rests over the "golden well"—a spring, the source of the water path. The water must always be running, so that the tombs must be on the side of a hill with springs. The burial is like that, I believe, of the period before fire worship began in Persia. You will see this point briefly referred to in my "Early Spread of Religious Ideas," lately published. Zoroaster put down cremation perhaps about 1200 B. C. Before that there was cremation coming up with fire worship. Previous to this there would be burial in coffins. To that stage in the development of funeral rites the Chinese ideas of burial belong. In China the idea of the necessity of running water beneath a tomb is not older than fifteen centuries ago, when the Chinese very much modified their notions on burial. No great Indian chief would be likely to have such an enormous mound raised over his coffin as an emperor of China has, but I expect the principle is the same. So far as I know, a detailed legend is attached to every large funeral mound in China, and it is stated in the local topography to whom the mound belonged. These legends may be inventions or not, but every mound has such a legend of origin. That the funeral rites in North America were of Asiatic origin is probable, because in Mexico, China and Japan many persons were put to death at the funeral of monarchs to attend them in the other world. The Chinese monarchs very seldom encouraged this cruel custom. It was practiced to a frightful extent by the

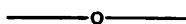
Japanese and the Mexicans. As the Japanese language is of Tartar origin, this fact seems to require that the Indian tribes speaking tongues which resemble the Dakota must have come from Asia. The Japanese government and the mikados dynasty date from about B. C. 600. Perhaps it was about that time that the Indian emigration to North America took place. My reason for placing it so late is that the Indian tribes have views on the future state which are advanced in their distinctness. The Chinese about that time began to believe that it is possible for the souls of the dead to meet in the underworld. The North American population would not be likely, on the hypothesis of a common origin of language and religion, to entertain these views earlier than the Chinese. In China, if the future state was not very distinctly a tenet of popular faith before that age, we may find an approximation to a date for the entrance of Tartar tribes, the ancestors of the Dakotas and other Indians, into the North American continent. * * * *

I should much like to know whether America was more accessible from Asia by the Aleutian Islands three thousand years ago than now. The climate of North Asia was better—milder and more favorable to the civilized development of man formerly than it now is. This is shown by the facts mentioned by A. Haworth in the "Mammoth and the Flood." * * *

I am going to print your questions and my answers in the *Messenger*, of which I will send you a copy. The annual subscription to our Asiatic Society is five dollars; subscribers have the journal free.

Yours very truly,

J. EDKINS.



MIMETIC AND DRAMATIC ELEMENT IN RELIGION.

With primitive man, religion is much more a matter of ceremony than of theology. The mere physical influence, the spontaneous discharge of nervous energy, account for the origin of the dance, which is the chief form of religious worship. The savage thinks that the spirits of the world will do as he will; therefore he makes his religious ceremonies mimetic and personates the nature powers. This is illustrated especially by the dances of the Moquis, as described by Dr. Walter Fewkes and others. The dancers are drenched to secure good rains, the fire workers perform to secure a reasonable warmth, and the Tusayan dancers paint white cloth for the sake of snow, just as the Ashantee thinks that when he sits down the gods sit, when he rises the gods rise, and when he dances the gods all dance. We may also trace the mimetic and dramatic idea in the savage mask dances and snake dances, and in the various dramatizations of the more advanced Pueblos, and even in the various ceremonies and liturgies of the more civilized nations.

THE "AZTLAN" ENCLOSURE NEWLY DESCRIBED.

BY T. H. LEWIS.

In the early days of the Northwest, when this vast territory began to fill up with settlers from the East, one of the first points to attract the general attention of the scientists was an enclosure situated on the west side of the Crawfish River, in Jefferson County, Wisconsin. At that time, this newly-discovered enclosure was the largest and the most interesting object of the kind in that region; and to-day, after more than half a century has passed, there are none, in the country mentioned, which surpass it in size or approach it in unique design.

This enclosure was given the traditional name of "Aztalan" by N. F. Hyer, who wrote the first illustrated account of it, and which appeared in the *Milwaukee Advertiser* of February 25th, 1837. This was not, however, the first published account describing the enclosure; for the above named paper states that there had been other accounts of it published in the Eastern papers, but that the editor had waited for a more authentic description of the place.

In January, 1843, Stephen Taylor published in *Silliman's Journal of Science* an article, accompanied by a plat, which was furnished by a friend who had visited the place. In 1850, I. A. Lapham made a survey and wrote an elaborate description of it, which appeared in the "Antiquities of Wisconsin," published by the Smithsonian Institution in 1855.

At the present time it is not possible to make a correct survey of the works, for the site has been under cultivation too long, so that the Lapham survey must stand, being as it is, the most elaborate one, and containing many of the minor details of the structure, which are not to be found on any of the other plats. Yet his survey is not entirely complete, as it does not show the platform mound located in the southeast corner, nor does it show any portion of the embankment that formerly extended, for at least a portion of the way, along the bank of the river, and which may still be traced for a few rods at both the northeast and the southeast corners, and at intervals between the two points named. Whether the whole of the river front was defended by a continuous embankment or not is a problem that cannot now be solved, although Hyer and Taylor both show that there was such an embankment existing at the time of their examination. A careful comparison of the Hyer and Taylor plats proves that as regards the principal embankments and mounds of the

enclosure proper, that were then in existence, they agree with the Lapham plat, but in addition they show an extra platform in the northeast corner, as well as a continuous embankment along the river. Counting the projections—as such—at the northeast and southeast angles, the Hyer plat has thirty-two; the Taylor plat thirty, and the Lapham plat thirty-four.

The embankments on the east side of the river, as shown on the Lapham plat, are natural—they having been pushed up by the ice, and there are others both above and below along the river bank. The mounds shown on the same side of the river—opposite to the lower part of the enclosure—never existed, and it is difficult to explain why they appear on the plat.

According to Lapham, the embankment forming the enclosure is six hundred and thirty-one feet long at the north end, fourteen hundred and nineteen feet long on the west side, and seven hundred feet on the south side, making the total length of the embankment twenty-seven hundred and fifty feet, and the space thus enclosed seventeen acres and two thirds. The major portion of the interior is on land which slopes toward the river, the western embankment extending along the edge of a ridge which terminates in a spur near the southwest corner of the enclosure. Near the end of this spur there are some auxiliary embankments—having projections similar to those of the main enclosure—which were probably erected to strengthen this section, on account of the valley just beyond, from which the enclosure could have been approached to within a short distance without much danger.

The base of the embankment at the northeast corner is about ten feet above extreme low water, and at the southeast corner about six and one-half feet. The highest point within the enclosure is at the southwest corner, and is about forty-four feet above low water. At the present time the embankments are from one and one-half to three and one-half feet in height. The outer face of the embankment along the north side is from one to one and one-half feet higher than the opposite face on the inner side, which is caused by the land breaking off in a slope toward the northeast; and the same is also true regarding the west half of the southern embankment, the slope in that case being toward the southeast. The embankment along the west side is the reverse of the others, being higher inside than out, the slope of the land being toward the east.

In constructing the embankment, debris of various kinds was used, such as burned stones, boiling or hearth stones, broken pottery, ashes and burned clay. The burned clay called "brick" by some is mixed with grass and weeds, and gives the impression that it was formerly utilized for some other purpose, and its usefulness having ceased, that it was finally dumped on the embankment as a part of the filling. In places the fragments of

burned clay are from three to seven inches in depth, while at other points not a fragment could be found. But it is not in the embankments alone that this burned clay is met with, for it is scattered in all directions, both inside and outside the enclosure.

The projections before referred to are built in the form of mounds intersecting the embankments, and they slope in all directions from a central point, according to their shape. They are from one to one and one-half feet higher than the embankment, and were built with some special object in view, which is not now apparent, although it is possible that they were burial places, for Mr. Lapham found human remains in the one at the northwest angle, and other explorers have had the same experience in excavating some of the others. These projections may be divided into three classes, viz.: First, those of a circular form; second, the elliptical form, the ends of which are apparently of the same width, and the third, which may be described as being shaped like half of an egg—split in two lengthwise—the point of which in some instances extends outward, and in others the large end forms the projection.

The two platform mounds on the west side of the enclosure are built on sloping land and are the highest on the side next to the river. The one in the northwest corner is, at the present time, about six feet in height on the east side, and the one in the southwest corner is ten or eleven feet in height on the east side. The platform mound in the southeast corner—as shown on the Hyer and Taylor plats—now averages about seven feet in height, the greatest elevation being on the side next to the river. The low parallelogram located in the northern part of the enclosure, near the river, is still traceable, and the east side is about two feet in height. Mr. Lapham does not give the height of any of these mounds in his text—and the cross-sections on his plat are not clear—but as regards the larger ones, they probably do not vary more than a foot or so from the original height, although their angles have been materially modified by the plow.

There are many excavations of a circular and elliptical form within the enclosure, and in some instances they look like a certain class of ruined dirt lodges, such as were formerly erected by the Mandan Indians. There is more or less debris within and around these excavations, and in the center of some the old fireplaces may still be traced, showing clearly that they were formerly occupied as dwelling-places. There are various forms of these excavations, and evidences of numerous pits, but many of them have been modified or entirely destroyed by continuous cultivation. Just south of the platform mound, in the northwest corner, much of the soil has been removed over a space exceeding a half acre, and at least a part of the material was used in the construction of the mound located in the south-

east angle of the enclosure. On this half acre there are several excavations, and the whole space was used for dwelling places; of which the burned earth and village debris, including burned stones, are the evidences on and in the ground.

In the southern part of the enclosure, fronting the river, there is a wash or gully, in the side of which are two ancient fire-places. One of these is two feet beneath the surface, and contained ashes, charcoal, mussel-shells, chert spalls, burned stones and fragments of pottery composed of clay and broken stone. The other fire-place was a foot and a half beneath the surface, and the contents were practically the same, but less in quantity.

The fragments of pottery found on the site of Aztalan are composed of broken stone and clay, sand and clay, and shell and clay. The colors used were yellow, brown, black, red, and a few fragments were of a brick color. In some instances the color extends nearly through the piece, with a finer coating on one or both sides, and in most instances the pieces are coated rather than painted. There are various designs of ornamentation, such as are made by indentation and incised lines, and the basket and net markings are also represented.

Many relics have been found, from time to time, within and around the enclosure. Those of stone are axes, chisels, celts, arrow and spear-heads, hand-hammers, disks, pipes, and a few shallow mortars. In copper, axes, awls, spear-heads, knives and beads are represented. Beads and ornaments made from sea shells, and awls of horn and of bone have also been found.

In conclusion, it may safely be stated that this enclosure was built and occupied in prehistoric times as a fortified village or town-site, as is evidenced by the various remains of a former occupancy which have been exposed from time to time by cultivation. An embankment twenty-two feet wide and five feet in height—figures given by Lapham—would make a very respectable defense against an enemy; and if palisaded, which it probably was, as there are no gateways in the embankment, the place would be almost impregnable.

PREHISTORIC PEOPLES OF JAPAN.*

BY ROMYN HITCHCOCK.

The origin of the Japanese people is an unsolved problem in ethnography. They are distinct from the peoples on the adjacent coast of Asia, and also entirely different from the original inhabitants of the land. That they are somewhat related to the early peoples of Corea is not improbable. There are ancient graves in Corea from which have been dug up vessels of crude pottery, that cannot be distinguished from those found in the old tombs or rock-built dolmens of Japan. These are all prehistoric remains, dating back into the period of myth and tradition, to the time of the reputed first emperor, the famous Jimmu Tenny, whose descent is traced directly from the Sun-goddess, the highest deity of the Shinto faith. The advent of Jimmu Tenny, according to the accepted chronology, was in the seventh century, B. C. The testimony of tradition clearly proves that he and his followers were invaders of a land whose inhabitants were of a different race and strange. Moreover, it tells of two distinct peoples who lived in the country, one a race of dwarfs, who had tails and lived in underground burrows or caves, the other a race of hairy savages whom they designated Ebisu.

Archæological research has confirmed these traditions in a remarkable manner. The existence of a race of dwarfs with tails has not indeed been confirmed. Even if we attribute the tails to the too vivid imagination of the early Japanese observer, himself no doubt something of a tale-bearer, we are still at a loss to know who were the dwarfs. We have evidence that there was a people once inhabiting northern Japan at least, who lived in half-underground earth-dwellings; but there are no indications that those people were small of stature, except that there are numerous allusions in old books to the people of northern Yezo, describing them as pit-dwelling dwarfs. Anutschin estimated their height at four and one-half feet, but upon what evidence I do not know. I shall show you some photographs of dwellings on the Island of Shikotan, off the eastern coast of Yezo, which, perhaps, represent a later form of the ancient pit-dwellings. In many parts of Yezo there may be seen large pits or depressions in the earth, usually circular or oval in shape, and ten to twenty feet across. The depressions are usually bordered by heaped up earth, so that the bottom is not much, if at all, lower than the

*Introduction to an address on The Ainu of Yezo, before the Section of Ethnology of the Chicago Academy of Sciences.

general surface of the ground. Capt. T. W. Blackiston, well known as a traveler in Yezo and in China, first drew particular attention to these, and suggested that they were the remains of human habitations. This view is reasonable, and my own observations tend to confirm it, although the evidence is mostly of a negative character. I have found such pits in many parts of the island, and hundreds of them in most excellent preservation on the Island of Yeterof, beyond the town of Shyana, on the north coast, where Capt. Blackiston reported having secured some fragments of pottery, but where my own digging yielded no results.

If these pits are the remains of earth-dwellings, they must certainly have belonged to a race that has passed away. We naturally associate them with the "dwellers under ground," the "dwarfs" or *Tsuchi-gumo* of Japanese tradition. The absence of such remains on the larger island of Japan, in the localities where Jimmu Tenno first encountered them, is, perhaps, only a natural consequence of the activity of a large agricultural population. In Yezo and the Kuriles but few people live, and they do not till the soil.

Tradition of another kind is confirmatory of this view. The Ainos tell of a race of *Koro-pok-gura*, who inhabited Yezo before themselves, and who were exterminated by them. These were likewise dwellers under ground, and it is reasonable to suppose that the predecessors of the Ainos, and the *Tsuchi-gumo* of Japan tradition, were, therefore, the same people; and that, as we follow the remains of their dwellings northward into Yezo, and on through the bleak and barren Kuriles, we trace the remnants of an aboriginal race, along the course of its last migration, to extinction and oblivion.

Still, and those early peoples there remains a halo of mystery too deep for speculation to solve. Were they an hirsute people? Were they dwarfs? Did they make the decorated pottery which is found now and then around the pits, the same as is found in the pre-Japanese shell heaps?

Now we come to the Ibasu, the hairy savages. There is no difficulty in identifying these with the Ainos of to-day. Of these there are about 15,000 living mostly on the island of Yezo. But we know well enough that they formerly lived in southern Japan. Within historic times they were found in the north of the main lands. They have left evidence enough of their presence in shell heaps or kitchen-middens, even as far south as Kiusiu, and in the distribution of geographical names of Aino derivation.

The shell-mounds contain human bones of a character to indicate that they belonged to Ainos, the humerus and tibia being flattened or platycnemic. They also contain pottery of various forms, decorated in characteristic and very elaborate patterns. Such pottery has been designated "Aino pottery."

But this pottery has always been a puzzle to me. The oldest Japanese pottery is found in the burial mounds. It is very rude in form and decoration, and differs in no respect from the sepulchral pottery of Corea. The pottery of the shell-mounds, the so-called Aino pottery, is much older, yet it is much more elaborately and artistically decorated. How is it possible, if this pottery was made by the Ainos, as is supposed, that the early Japanese, when they came in contact with the Ainos, did not borrow something, at least, from the Aino designs, with which they must have been acquainted? The imitative character of the Japanese would naturally lead us to believe that they would have done so, and their innate appreciation of beauty in form and decoration certainly would have caused them to prefer the Aino to the Corean decoration. Is it not, therefore, possible, that so-called Aino pottery is not Aino at all? May it not be that this very elaborately decorated pottery is very much older than has been supposed, older than the Japanese graves and dolmens, so old, indeed, as to have been quite out of use at the time of the advent of the Japanese? It may have been buried in the shell-heaps of a people who were predecessors of the Ainos—the dwarfs or pit-dwellers if you will—then being driven into the far north by the Ainos, who did not know the potter's art. But then we bring in question also the connection between those shell-heaps and the Ainos. The flattened bones connect them with the Ainos, and if the bones are Aino is not the pottery the same? But is it possible to suppose that a people who had acquired such skill in forming and decorating pottery should have lost it absolutely, without a change of habitat, or in their modes of life, and in the midst of abundance of the raw clay, the use of which they knew so well?

I ask these questions; but I must leave to others the researches still necessary for a reply. So far as we can interpret history and archaeological research in Japan, it would appear that there was at one time a race of people, reputed to have been dwarfs, but on very doubtful evidence, who lived in half underground burrows or caves. These were succeeded by the Ainos who, perhaps, came from the north and exterminated the pit-dwellers. Then came the present Japanese, who drove the Ainos gradually toward the north, until now they are found as only a remnant of a once numerous and powerful people, in the Island of Yezo.

THE PO-BOC-TU AMONG THE HOPI.

SITCOMARI, February 28, 1894.

DEAR DR. MATTHEWS:

I forgot whether I ever told you of a society of occult medicine among the Hopi, called the Pö-boc-tü, eye-seekers; they are closely connected with the Po-wä-ka, sorcerers; originally I believe they were the same; but the eye-seekers are now wholly beneficent, and devoted to counteracting the evil of the malignant sorcerers. In some unaccountable way the society has been allowed to die out almost completely, for as near as I can ascertain there are only three surviving members in Tusayan; one in the village on the East Mesa; one in Müëöñinovi, and one in Oraibi; this latter being one of the prisoners you had at Wingate. As with the Navajo, the belief is quite common with the Hopi that the sorcerers effect their mischief by shooting a missile from the magic bow into the body of the person they desire to afflict. A good many years ago I witnessed the eye-seekers operating upon an afflicted man, on which occasion they apparently cut out a large flint arrow head from his breast. It may interest you to hear a curious personal experience I had with the eye-seeker who still lives in this village. His name is Si-kyä Hö-nau-üh, Yellow Bear, and at the beginning of the present month he came in to see me, saying that he had heard I had been ill, and expressed kindly sympathy. A neighbor, known as Toby, and a young lad that I sometimes employ, were also in my quarters at the time, and Yellow Bear sat down with them and smoked, and in a friendly way inquired concerning my illness. As well as my hoarseness permitted I told him, and in response to his enquiries told him that I had taken some Pa-hän ña-hu, American medicine, and some herb drinks that a neighbor had brought. He asked if I would not like to have him look and see what ailed me, this not at all in a solicitous manner, but rather as a friendly suggestion. Toby urged me to make the request, and as it occurred to me I might thus have an opportunity of seeing a new phase of the eye-seekers' methods, I complied. But I was in a listless, half-torpid condition, not at all in good plight for observing with accuracy.

As a preliminary, a gift of nominal value must always be made to the Hopi mediciner before he begins, usually followed by more substantial gifts after he has finished; but differing from the Navajo, the Hopi mediciner assumes the utmost indifference on this point, and it is considered ill manners to discuss gifts or their value before him. In very marked contrast to the Navajo Shaman, the Hopi Shaman takes whatever gifts are tendered him without a simple comment.

A piece of cloth or calico stuff is usually the first gift, but as I had none in my quarters, Toby ran to his own house and returned with a few yards which I gave to Yellow Bear. To begin with, he got one of my bowls and filled it nearly full of water, placed it between me and the fire, before which I was lying on a pallet, and then sat down beside me. Opening a small pouch that he constantly wears, he took out four quartz and other pebbles, typical of the emblematic cardinal colors, although I could not see much difference between them, but they represented Yellow, for the northwest; Blue, for the southwest; Red for the southeast, and White, for the northeast. Beginning with the yellow pebble, he dropped them into the bowl, one at a time, with low muttered prayers to Bear, Badger, Horn-toad and Wu-yak Cö-hü, Broad Star (Aldebaron). The prayers were to this effect: "Steve, our friend, lies here ill and speechless, may be you will show me what the ill is, may be you will show me what has cut off his voice." He then crushed a small fragment of dry herb roots between his fingers and sprinkled it upon the surface of the water in the bowl, and this he told me made the ña-ku-yi, charm water. He now took from his pouch a beautiful leaf-shaped knife, about three inches long, made of a pale green stone of compact texture, and laid it on the pallet close to my left side. He then drew from the pouch an irregular shaped lump of quartz crystal, about the size of a walnut, retaining it in his hand.

"Now," said he to me, "take off your shirt and sit up, and I will try to see what makes you ill." He seated himself on the foot of the pallet, which brought him under the window in the southwest wall, while I sat up on the other end of the pallet, facing him. Taking the crystal between finger and thumb, sometimes one hand, sometimes the other, he placed it close to his eye and looked intently at me; then he would hold the crystal at arm's length toward me; then he would bend over so as to bring it close up to me; and thus he swayed back and forth, in silence, occasionally making passes with his arms to and fro and towards me, for about four or five minutes. Suddenly he reached over me and pressed the crystal against my right breast, and just upon the region of a quite severe pain, and which I may have described to him; but whether or no he located the seat of the pain exactly. He at once put the crystal in his pouch, and told me to lie down again, and after I had done so he took up the pretty green knife and began sawing the skin up and down, *i. e.*, lengthwise, over the spot where he had set the crystal.

It was a mere scarification, just enough to draw blood, which being effected, he put the knife back in his pouch, and sipped a little of the charm-water. He then bent over me, and placing his lips against the wound, he *exhaled* twice upon it, and the effect was to send an icy chill through me from head to foot.

As I have said, my ill condition prevented me from exercising any nice discernment, but the occurrence impressed me vividly, and it is that I seek to tell as precisely as may be. After each of these exhalations he raised himself on his knees, and breathed ostentatiously from me; he again bent over me, and placing his lips again on the wound he *inhaled* twice, no marked sensation following the inhalation. But after the second time he carried my left hand to his mouth and spat into my palm an abominable looking, arrow-shaped, headless sort of centipede. It was about an inch and a quarter long; of a dark-brown color, and seemed to be covered with a visoid substance; it had no head that I could make out, but its legs certainly moved, and it seemed to be a living insect. This, said Yellow Bear, is Tu'-kyai-ni (that causes sickness); it is also called po-wá-ka ho-adta, sorcerer, his arrow; as I understood him, it may come to one through mishap, but usually it is sent (shot) by a sorcerer; it bores through the flesh until it reaches the heart, which it also bores and causes death. Yellow Bear only permitted me to look at it briefly, because it must be instantly carried forth to the cliff edge and there exorcised. This rite he performed alone, and I have not felt in trim to take up the subject for full disclosure. On coming in again he made me drink part of the charm-water, and gave the rest to my two friends, who sat awe-struck, and as they afterwards confessed, rather badly scared. He then munched between his teeth the dried roots of four herbs, spitting them into a bowl of cold water, and the compound was very fragrant and somewhat mucilaginous. This he told me to drink from time to time for four days, which I did, and I really received much benefit, but whether from the cold infusion or the scarification I am still in doubt, at any rate the pains in my chest ceased.

The fragrant herb root to which Yellow Bear attaches the most importance, and which seems to be a universal panacea of the Hopi, entering into almost all their herb infusions, is called Hon-ná-pi, Bear charm, and which, through Dr. Fewkes, I had identified by a Harvard botanist who gives it as *aster ericæ folius* (Rothrock). Yours very truly, A. M. STEPHEN.

Mr. Stephen, the writer of the above letter, died in April, 1894. The following note, which was contained in the same letter, shows what he was engaged in and what his hopes were as to finishing the work: "I think that with one more year up here I will have sufficient data for a comprehensive monograph, but an interruption now would really be a disruption of my scheme of work and would just about ruin me."

A CHOCTAW MIGRATION LEGEND.

BY H. S. HALBERT.

According to an old tradition, now perhaps utterly forgotten by the present Choctaws of Mississippi, the ancestors of the Choctaws and Chickasaws lived, in primeval times, in a far western country, under the rule of two brothers named Chahta and Chikasa. In process of time, their population becoming very numerous and their territory overcrowded, they found it difficult to procure subsistence in that land. Their prophets thereupon announced to them that far to the east was a country of fertile soil and with abundance of game, where they could live in ease and plenty. The entire population resolved to make a journey eastward in search of that happy land. In order to more easily procure subsistence on their route, the people marched in several divisions, of a day's journey apart. A great prophet marched at their head, bearing a pole, which, every evening, on camping, he planted erect in the earth in front of the camp. The next morning, the pole was always seen leaning in the direction they were to travel that day. After the lapse of several moons, they arrived one day at the mound on Nanih Waiyah Creek, where they camped for the night. The prophet erected the sacred pole at the base of the mound. The next morning the pole was seen standing erect and stationary. This was interpreted as an omen from the Great Spirit that the long-sought-for land was at last found. It so happened the very evening the advanced party camped at Nanih Waiyah Creek that a party, under Chikasa, crossed the creek and camped on the eastern side. That night a great rain fell and it rained for several days. In consequence of this, all the lowlands were inundated, and Nanih Waiyah Creek and the other tributaries of Pearl River were rendered impassable. After the subsidence of the waters, messengers were sent across the creek to bid Chikasa's party return, as the oracular pole had proclaimed that the long-sought-for land was found and the mound was the center of this land. Chikasa's party, however, regardless of the weather, had proceeded on their journey, and the rain having washed all traces of their march off the grass, the messengers were unable to follow them up, and so returned to camp. Meanwhile, the other divisions in the rear arrived at the Nanih Waiyah mound and learned that here was the center of their new home, and their long pilgrimage was at last finished. Chikasa's party, after their separation from their brethren under Chahta, moved on the Tombigbee and eventually

became a separate nationality. In this way the Choctaws and the Chickasaws became two distinct, though kindred, nations.

This tradition was related to the writer ten years ago by Mr. James Welch, of Neshoba County, he receiving it from the Rev. Peter Folsom, a Choctaw from the nation west, who was employed in 1882 by the Baptists of Mississippi to labor as a missionary among the Choctaw people in Mississippi. Mr. Folsom stated that soon after finishing his education in Kentucky one day in 1833 he visited the Nanih Waiyah mound with his father, and while at the mound his father related to him the above migration legend of his people.

We have, however, never yet met this legend in its fullness among our Mississippi Choctaws. All, however, look upon the Nanih Waiyah mound as the birth-place and cradle of their race. For there, they say, Aba Inki, the Father above, ages ago, fashioned the first Choctaws out of red clay at the base of this sacred mound. An old Choctaw once told the writer that immediately after the creation of their forefathers, the Great Spirit divided them into two *iksa* or kinships, the *Kashapa Okla* and the *Okla in holahta*, or *Hattak in holahta*. Stationing one on the north and the other on the west side of the mound, the Great Spirit then gave them the law of marriage, which they were forever to keep inviolate. This law was that children were to belong to the *iksa* of their mothers, and that one must always marry into the opposite *iksa*. By this law, a man belonging to the *Kashapa Okla* must marry a woman of the *Okla in holahta*. The children of this marriage belong, of course, to the *iksa* of their mother, and whenever they marry it must be into the opposite *iksa*. In like manner, a man belonging to the *Okla in holahta* must marry a woman of the *Kashapa Okla*, and the children of this marriage, from being *Kashapa Okla*, must marry into the *Okla in holahta*. Such was the Choctaw law of marriage, which they attribute to divine authority. The *iksa* lived promiscuously throughout the nation, and as every one knew to what *iksa* he belonged, no matrimonial mistake could possibly occur. This division of the Choctaw people into two *iksa* existed in Mississippi down to a very recent period—in fact, in some localities, it is said, it is not even yet extinct, but is slowly dying out under the influence of Christianity, education and other results of contact with the white race.

To those readers of THE AMERICAN ANTIQUARIAN who would like to know more of the far famed Nanih Waiyah mound and its surroundings, we would cite them to an accurate description contained in Vol. XIII, No. 9, of THE AMERICAN ANTIQUARIAN, for November, 1891.

SABÆANISM OR SKY WORSHIP IN AMERICA.

BY STEPHEN D. PEET.

We have considered several of the aboriginal religions of America, and have found in them striking resemblances to the ancient religions of the east. We now come to a system which is purely indigenous, having no trace whatever of historical connection or traditionary descent, and yet the resemblance is very striking, even more striking than any other system. We refer to the system which is called, in the east, sabæanism or sky worship, but which, in America, has received no special name. This is, however, one of the most prominent aboriginal religions and one which has the richest store of symbolism. We design to take this as a special subject for study, but shall first consider some of the elements which were common in America and in the far east. The following are the points which we shall endeavor to bring out: 1. It has been regarded as one of the earliest of the historic faiths, but in reality had its origin in prehistoric times and was carried over into the historic age with all its conceptions fully developed, and soon became very prominent and wide spread.

2. It was only one of a series, having been preceded by others which were ruder, and followed by those which were more advanced. Max Müller, the great ethnologist, claims that "the worship of the bright heavens" preceded even sun worship and the belief in the personal divinities, but it was, at least on this continent, preceded by totemism or the worship of animals, by animism, fetichism, and several other systems.

3. It was a religion which appeared in connection with a certain stage of growth, and was peculiar to a grade of society. It was, in fact, the religion of the agricultural races, and always appeared in connection with a partial civilization, the pictures, images and allusions always having regard to those customs which follow the hunter state, and are peculiar to the sedentary tribes, the sun and moon and heavenly bodies being the natural divinities of such people.

4. The conception was common that the sky was divided into different "houses" or celestial spaces, which were filled with different divinities, the nature powers proving servants to them. There was in some cases a tendency to transfer animal divinities to the sky and make them preside over the celestial spaces, and to trace out constellations in the sky which should be the pictures of animals—the serpent, the dragon, great bear and other nondescript creatures having their place among the stars.

5. Another conception was that the sky was a dome, resembling the roof of a house, or rather the hemispherical form of the tent, that it was divided into four quarters, the cardinal points making passageways between the four quarters, but the houses contained different stories or terraces, the upper stories being occupied by divinities and the lower stories by human beings, the correspondence between the celestial and terrestrial spaces being very complete.*

6. There was a "symbolical geography" among all of the sky-worshippers, which divided the heavens above and the land below after a particular model, every city, town, village or tribal territory being so divided into squares as to make the map of the earth correspond to the map of the sky, each part or square being sacred to a particular divinity, national or tutelar. Even the land divisions were modeled after and corresponded to the divisions of the sky. Every city or town, or the entire territory, was divided into squares, which made each a great temple, the chief residence of the divinity being in the center of all. The four divine regions of the Chaldeans were not only the abodes of the gods, but were the places where the gods and men met together. The Chaldean monarch was called the king of the four regions of heavens, having his seat of empire in the central region, while the central square in the map or chart symbolized the "soul of the world" exactly as in China the palace of the celestial empire was in the center of a great square and the throne was surrounded by nine terraces, which symbolized the heavens and the horizon.

7. The peopling of the sky with personal divinities was another element in the sky worship, which was everywhere the same. Sabæanism in America always carried the thought up into the sky and made the spaces there to be peopled by supernatural powers and divinities, though the divinities differed according to the locality. With the ruder tribes these divinities were animal fetiches; with the more advanced they were personal divinities, similar to those persons who had been warriors and kings, and great men, culture heroes. A very great resemblance exists between the native American mythology and that which prevailed in classic lands, though the names and exploits of the heroes differ greatly. There was no such character as Hercules known in America. These heroes became national divinities. With many of the nations there was a tendency to make an axis, which supported the sky, pass through the center of their habitat.

8. Through this conception of the sky being the place where divinities and men met together, there came to be a very singu-

*An Assyrian tablet of the sky was regarded as a "house" it was not a tabernacle, but was a sort of house, the "house of the gods." The sky above was the earth which was habitable by the gods and men.

lar standard of kinship and of child training. As in the case of totemism, the child was introduced into the clan and tribe at birth, always taking the name and sign from the mother, rather than the father, but received its individual name after fasts and dreams, and particular ceremonies by which it came under the care and guardianship of a particular animal divinity, so in the case of Sabæanism the child must pass through certain ordeals and ceremonies, in order to partake of the supernatural gifts, the emblems of the nature powers and the heavenly bodies being very prominent in the ceremonies. One could not find his proper position in the "cosmos" until he had passed through the doors of the heavenly houses and touched the boundaries of the sky, and apprehended his dependence upon the nature divinities.

9 The prevalence of sacred mysteries and secret societies is owing to the sky worship as much as to any other cause. As



Fig. 1.—Horus Weighing the Soul before Onnu.

in totemism, the animal divinities visited the lodges and bestowed supernatural gifts upon the candidates, the priest shooting the charm or power into the body from the medicine bag, so the divinities of the sky were supposed to visit the lodges or kivas, or sweat houses, and bestow the heavenly gifts. These were sometimes symbolized by the plumed serpent as a rain god.

10. The system of divination and magic was connected with sky worship. This system was very extensive at the east, and prevailed in Central America. It is supposed to have introduced the calendar system and the hieroglyphics, but covered these with an air of mystery and made them difficult to understand, in order that the power of the priests might be kept over the people.

11. Another interesting feature of Sabæanism was that it guarded the door to the future life, and held the passage between the present and the future. In Egypt and the east there was an

drama the first scene was as follows: A strange person, painted with white clay, covered with a robe of four white wolf-skins, wearing a splendid head-dress of two raven-skins, carrying in his left hand a large pipe, which he guards sacredly, approaches the mystery lodge and opens it. On the next morning he leads the young men who are candidates into the lodge, and introduces them to the medicine man, the master of ceremonies, and presents to him the medicine pipe*, and afterward disappears.

In the lodge were four articles of great veneration. They were sacks in the shape of large tortoises,† which contained waters from the four corners of the world, very ancient; the water had been contained in them since the "settling down of the waters." Outside of the lodge there were strange ceremonies, as follows: eight men, divided into four pairs, took their positions on the four sides of the big canoe, representing the four cardinal points, each having buffalo horns on his head and hair on his feet, with a rattle in his right hand and a white rod or staff in his left hand, and carrying on his back a bunch of green willow boughs.‡ These represented the cardinal points. Between each group was another figure engaged in the same dance, with a similar staff and rattle, wearing a kilt of eagle's quills and a splendid head-dress. The bodies of



Fig. 1.—Scene in Ancient Chaldean.

two of them were painted black, with white spots, to represent the firmament, or night, and the white spots to represent the stars. Two were painted red, with white streaks, to represent the day and the ghosts which the morning rays were chasing away. These persons carry on a dance in the presence of the whole people. On the first day they dance once to each of the cardinal points, on the second day twice, on the third day three times, and on the fourth day four times. By the side of the "big canoe" are two men with the skins of grizzly bears thrown over them, which are approached by two men who represent bald eagles. The bears are continually growling for food, but the bald eagles dart upon them and carry away their food. At the end of the dances the evil spirit appears, strangely clad, painted black, with white rings, white around his mouth and red teeth, having a hideous appearance, and giving the most frightful shrieks and screams, and dashes through the village and enters the terrified group. But the master of ceremonies holds the medicine pipe before him and holds him immovable under

*Medicine pipe, staff symbol.

†The tortoise was the common symbol for the earth.

‡Willow, emblem of the spring.

bodies were decorated symbolized the colors of the sky; other objects symbolize the different elements, and the whole ceremony was a dramatization under the lead of a secret society, not only of the creation and the deluge, but also of the traditions about the animal gods and the supernatural divinities which ruled the earth and the sky.

2. We notice that the same superstitions prevailed among the Eskimos and the Ojibwas. In the belief of the Ojibwas there is a place of shadows, a hereafter and a shadowy spirit; each person also had a guardian spirit, or tutelar demon, who appears, after a fast of a number of days, in a dream, generally in the shape of a bird or animal. The future course of life is marked out by the dream, exactly as in the ancient world it was marked out by the horoscope, or the situation of the stars. There is a chart which represents the sky worship of the Ojibwas. In this we find the *mida* tree, which symbolized the spiritual power, the *wabeno* tree, the great spirit filling all space with his beams and lighting the world by the halo of his head. The hawk is the guardian spirit, the charmed arrow, the sacred dish, the stuffed crane, the ghost lodge. The great spirit begins and ends the chant. This first figure was that of a bird in the lodge, the last is a figure of the face, or sun, under the arch of the sky.*

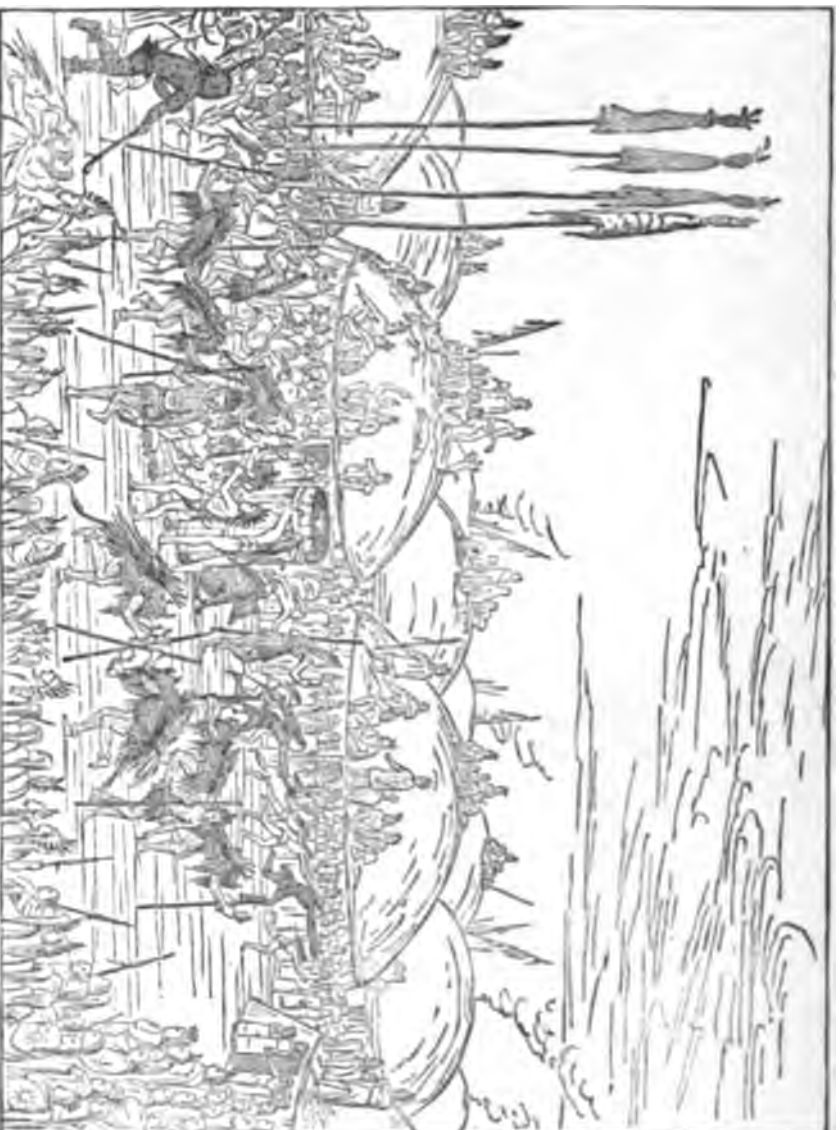
3. The tribes situated in the Gulf States also had a system of symbolism which was based upon sky worship and which introduced a symbolical geography into their village and influenced even their architecture and the arrangements of their houses, tribal organizations, their feasts and dances. The following is the description given by Bartram of their public square and council house: "The public square is the highest part of the town. It consists of four square buildings of one story, so as to form an exact rectangle, covering half an acre. One of these is the council house, where the chief or *Mico* decides cases and receives ambassadors. This building is divided into two parts, the back part perfectly dark, with three small arched apertures opening into it. This is a sanctuary, where they deposit all the sacred things, the imperial standard, the calumet, rattles. The front of the building is divided into three apartments. The pillars supporting the front are formed in the likeness of speckled serpents climbing upwards. The other buildings which compose the square are decorated with paintings, sculptures and hieroglyphics, men having heads of some kind of animals, bear, wolf, fox, turkey, ducks and deer, and again these creatures have human heads. The rotunda is different from the public square; this is built upon a conical mound and has a conical roof.

*Another chart has been furnished by Dr. W. H. Hoffman, which represented the creation by an "orientated" circle, the initiation by four rectangular lodges, also orientated, their entrances guarded by serpents and animals, the "end of life" by a circle, and the "future life" by a square lodge, and a circle for a "ghost lodge," and the path of the dead between them.

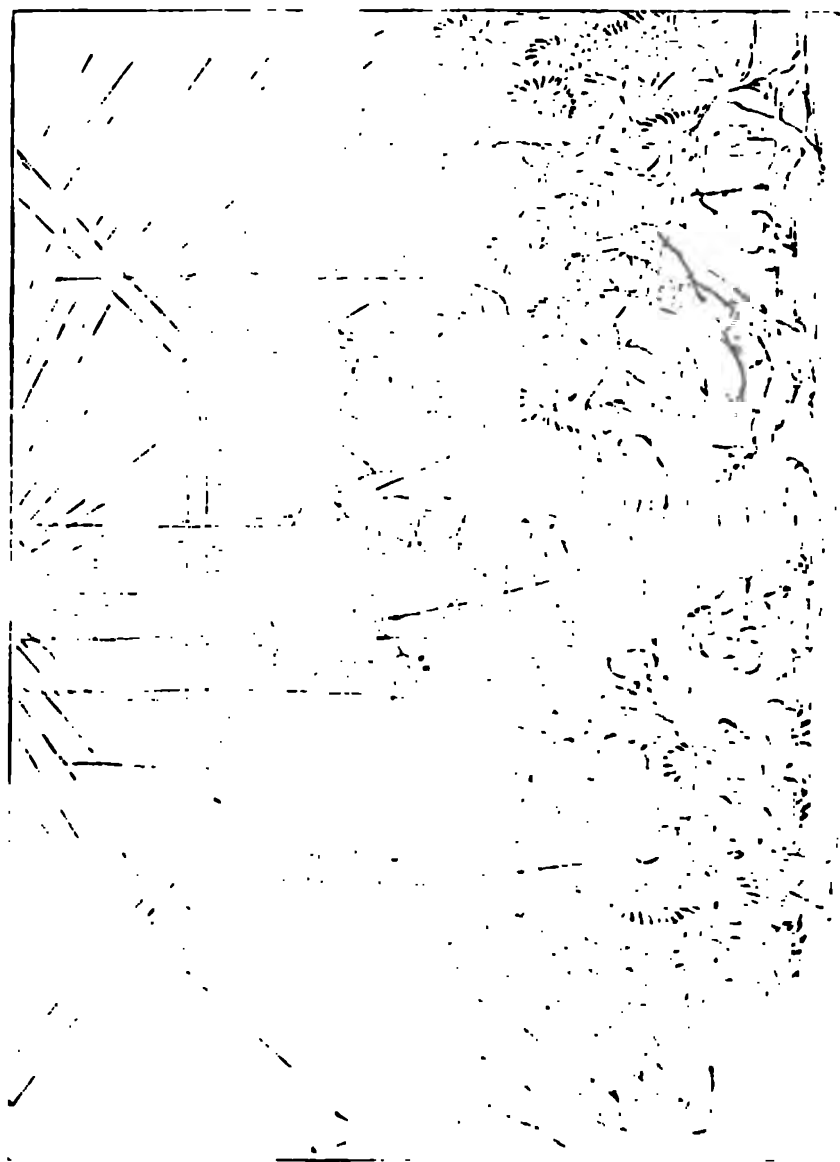
There is, in the center of it, a post or pillar. Around this post the spiral circle of faggots was placed, the circle of faggots turning from right to left, extending to a distance of ten or twelve feet from the center, rising a foot or eighteen inches from the ground. This spiral circle was lighted at the time of an opening of the council. The blaze creeps around the center pillar, following the course of the sun, illuminating the entire chamber. When the fire burns out the council ceases. After the illumination takes place the warriors are seated on their sofas in three ranks, the king in front and the young warriors to the rear. The great war chief's seat is to the left hand of the king, the elders and head men to the right. The king smokes the great pipe, puffing the whiff to the four cardinal points. It is then carried to the different persons and smoked by them in turn."*

The account which Bartram has given of one of the dances is very suggestive. The dance was held in the rotunda. In this dance the musicians were seated near the great pillar, where was the central fire, but around the building was a row of seats, one above the other, like an amphitheater. A company of girls, hand in hand, dressed in clean, white robes, and ornamented with beads, began to sing their responses in a gentle, low, sweet voice, and formed themselves in a semicircular file or line in two ranks, back to back, facing the spectators and musicians, moving slowly round and round. Afterward a company of young braves, painted and ornamented with silver bracelets, gorgets and wampum, moccasins and high waving plumes in their diadems, formed themselves in a semi-circle or rank. There was something singular and diverting in their step and motion. The motion began in one end of the semi-circle, the dancers rising up and down, and continued to the other end. At the same time, and in the same motion, the dancers moved obliquely, so that a revolving circle was formed by the complex movement. At stated times a grand or universal movement instantly occurred, each rank turning to right and left, taking each other's places, accompanied with a sudden and universal elevation of the voice in a shrill, sharp whoop. Whether the motion of the heavenly bodies was symbolized by this dance or not, it was a very significant ceremony and one which was carried out with great exactness and managed with inconceivable alertness and address. Bartram gives no interpretation of the dance or of the arrangement of the houses or villages, or of the other customs which he observed, but we imagine that all of these buildings were orientated and arranged after the model of the celestial spaces, that the rotunda symbolized the dome of the sky and the spiral fire symbolized the motion of the sky, that the dances even symbolized the opening and the shutting of the day, and that the system of sky

*See p. 10, Bartram's Travels.



DRAMATIZATION OF THE DELUGE MYTH AND THE SKY DIVINITIES BY THE MANDANS.



THE MOUNTAIN OF WARRIORS AMONG THE MANDARINS

worship will account for all these customs and ceremonies. We have no record that there were secret societies and sacred mysteries among these tribes, but a natural inference is that all of these ceremonies were under the direction of such a society. There is no doubt that there was an esoteric significance to all these customs and that they embodied the myths and traditions which had regard to the sky divinities, myths which resemble those held by the Cherokees.

II. We next turn to the ancient Mound-builders. We have already referred to different religious systems which prevailed among them.* We have shown that animal worship or totemism prevailed in one district; fire worship in another; the water cult in another; the moon cult in another, and the solar cult in still another. The thought now before us is that sky worship was the predominant religion of the Mound-builders and these local cults were the component

parts of the more general system. 1. As evidence of this we would refer to the relics which have been discovered in the mounds, especially those situated in the Ohio Valley and the Gulf States, a region which was occupied by the sun worshipers. Among these relics we notice many shell gorgets in which there are circles, and in the circles, discs and dots and crescents, the arrangement of



Fig. 3.—Mound builders' Map of the Sky.

the figures on the concave shell gorgets suggesting the thought that there was an attempt to make them represent a map of the sky with the sun, moon and stars filling the four celestial spaces. See Fig. 3. There are coiled serpents with the bodies divided into four parts by concentric circles, other concentric circles forming the eye, the concave filled with various arches (see Fig. 4) suggesting that there was a hidden astrology contained in them. There are also spider gorgets which have circles and crosses and bars upon the back, zigzag lines between the mandibles, all of them symbols of the nature powers, the number four being preserved, and the whole arrangement making them suggestive of a chart. The same may be said of the bird gorgets, though in these the spaces are rectangles rather than circles. They are all suggestive of a symbolical geography which had to do with the sky as well as the earth.

Our supposition is that they represent the motion of the

*See book on Mound builders.

heavenly bodies, the order of the seasons, the points of the compass, the division of the sky, the four elements—fire, earth, air and water, the celestial spaces, the nature powers, and possibly a calendar system. These symbols are rude and present the subject in a primitive stage, but they are constantly suggesting thoughts of the customs of the more advanced races and remind us of the marvelous things contained in eastern mythology. We have already shown that they contain the same symbols which are embodied in the various calendar wheels and sacrificial stones of Mexico, as well as those which are found upon the inscribed tablets of the ancient cities of Central America, for the crosses, circles, serpents, figures of the tree, birds, masks, human figures, which are found rudely drawn upon the disks and gorgets and tablets, apparently have the same significance as those contained in the more advanced works of art, and represent the same general system. The temptation is to read into these lines, the



Fig. 1.—Serpent in the Horizon.

symbols which developed with such great variety in the east, and to imagine that the serpent whose folds surrounded the earth and formed the ocean was symbolized in the serpent gorget; that the Nile key or Egyptian tau was symbolized in the spider gorget; the triskelis or revolving wheel, which symbolized the revolution of the sky, and the fire generator or suastika, which is also an oriental symbol, were contained in other gorgets. We can say, at least,

that there is such a correspondence between these symbols and the oriental myths as to lead us to trace out a "map of the heavens" in these rude disks and gorgets, for we recognize in these figures of serpents and spiders analogies to the dragons, beetles, and tortoises which are seen in the maps of the heavens elsewhere, while the arrangement of the circles, crescents and crosses are almost identical, and suggest the same myths.

An astronomical significance may be given to the winged and masked creatures which are engraved upon the copper plates. These resemble, in some respects, the winged figures common among the Chiricahua and Pueblos of the west, and at the same time remind us of the winged creatures which were found by M. Habel engraved upon the sculptured stones of Guatemala. There was the same combination of birds' claws and beaks, with human bodies and limbs (see Fig. 5), the symbol of the sun being as plain upon the shell gorgets as upon the sculptured

stones, though the flames are absent. It is probable that these represented the sky divinities, the wings filled with arches symbolizing the spaces above and the clouds, the birds' beaks and claws symbolizing the bird of the sky, the human form perhaps symbolizing the personal divinities. The same may be said of the dancing figures, for there are zigzag lines upon some of the faces, and there are masks in their hands, and there are circles surrounding them, showing that the lightning and the operations of the sky were symbolized by them, for masks are the signs of transformation; the dancers are transformed into birds and animals, and again into men and warriors, and yet they personate the divinities as well as the nature powers.

The same interpretation may be given to the human figures, whose limbs are so strangely contorted and end in birds' claws, bodies divided into links and circles, head in the shape of a corona, ears formed by perforated loops, arms curiously doubled and jointed, numerous perforations at the joints (see Fig. 5), the space in the shell being filled with loops and other figures. These symbolize the sky divinities. The presence of shell masks with the tattooed human face upon them in the mounds conveys the idea that there was an association of the burial of the dead with the system of sky and sun worship, for the custom prevailed among the Aleuts to put a mask over the face of a dead person when it was laid away, as it was supposed to be going on a journey to the land of the spirits. A



Fig. 6.—*Arched Heavens Person (Med.)*

A similar interpretation has been given to the faces with open mouths. These faces are attended with sun symbols, sun circles, birds' heads, symbols of the cardinal points, suggesting that the soul had departed to the celestial spaces. The fact that shells and disks on which were inscribed symbols of the soul were deposited with the body at the time of burial shows that there was a connection between the native astrology and the future state. The soul which was so surrounded by the nature powers and the solar universe was to be introduced to the celestial spaces after death. Hence the symbol must be placed near the body, that the soul might take these as the doors or the patterns of the supernatural realm. This was the underlying thought with the sacred mysteries and the secret societies

2. It may be said also of the mounds themselves, especially those upon the Ohio River, that they contain the many astrological symbols, singly and in combination, the same as the relics do. We find in them circles, crescents, squares, concentric circles, crosses, horse-shoes, platforms, altars, avenues, so related to one another and to the relics which are contained in them as to convince us that they were designed to be symbols of sky worship. The uniformity of the figures and of the areas contained in the sacred enclosures, as well as of the measurements of the walls surrounding them, has been noticed by all the surveyors, for the circles are perfect circles and the squares are perfect squares. It has not been held that this perfection of the figures was anything more than accidental, but the correspondence between the earth-works and the relics convinces us that these were



Fig. 5. South of the Sun-Spiral Path, Embowed Figure in the Ground.

all directed by symbolical geography; for the sacred enclosures and the platforms within them were orientated, and that on this account the pavements and altars contained in the mounds were constructed in the shape of circles and crescents, and the conical mounds had spiral paths and circular ditches about them. See Fig. 6. The earth-works surrounding their villages, sacrificial and burial places were constructed after the patterns which seem to represent the map of the sky, on a large scale, and everything about them was put under the protection of the sun divinity. In fact, we recognize the circles, crosses and crescents, and serpents and birds represented by the earth-works and in the relics as the different parts of one great system, of which the earth-works were the symbols.

3. We are led by these symbols to draw the comparison between the earth-works here and the standing stones and monuments of Great Britain, for there are many analogies between them, though

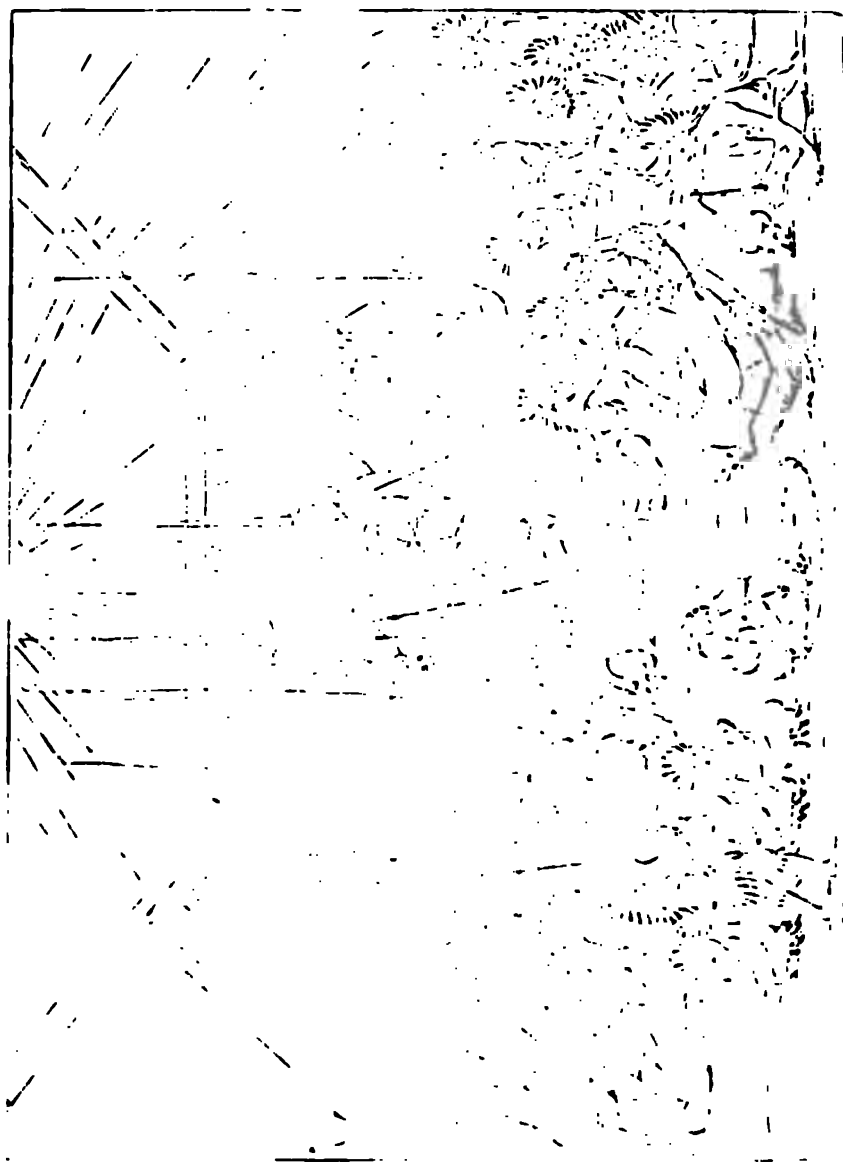
Fig. 6. The Sun-Spiral Path, Embowed Figure in the Ground, and the Sun-Spiral Path, Embowed Figure in the Ground, and the Sun-Spiral Path, Embowed Figure in the Ground.

the identity of the symbols is difficult to prove. Others have noticed the symbolism contained in these different works. Mr. W. F. Maurice has described the circles at Stonehenge and Avebury. See Fig. 9. Speaking of Stonehenge, he says: The number of stones in the outer circle is thirty, and of the inner circle is twelve, and the single stone, or obelisk, in the center. He says that the remarkable numbers one hundred, sixty, thirty, twelve, constantly occurring, unavoidably bring to our recollection great periods of astronomy, the sothic cycle, century, the months, thirty days, twelve signs of the zodiac; five is the multiple of most of these numbers. He compares Stonehenge to the circle at Biscawen, a circular temple, consisting of nineteen stones, distant from each other twelve feet, having one in the center



Fig. 7.—Mound with Circle and Ditch, symbols of the sun.

higher than the rest. Nineteen is a sacred number. He says: "All circular monuments, especially those consisting of columns or standing stones, were meant as representatives of the sun, or the revolution of the sun in its orbit. The temple was uncovered, resembling the temples of the ancient Persians. He compares Stonehenge to the circular temple at Rollrich, which is the same size, and which he calls the Druids' wheel or circle. The Druids, not less than the Brahmins, adored the sun in a circular dance. The Gauls imitated the sun by turning the body around while engaged in their devotions. The Phœnicians made their children pass through the fire and worship the sun as a divinity. In Scandinavia the gods were worshiped partly in the open air and in groves, or in places encompassed by a circle of big stones. The Druids celebrated their solemnities at the solstices. It is said that they used the stones which cover their dolmens as their altars, and sacrificed human victims upon these. It is noticeable that the modern archæologists are tracing out a remarkable system of solstitial orientation in the works at Stonehenge, showing that the adytum or altar was open in a line with the monolith



THE INITIATION OF WARRIORS AMONG THE MANDANS

worship will account for all these customs and ceremonies. We have no record that there were secret societies and sacred mysteries among these tribes, but a natural inference is that all of these ceremonies were under the direction of such a society. There is no doubt that there was an esoteric significance to all these customs and that they embodied the myths and traditions which had regard to the sky divinities, myths which resemble those held by the Cherokees.

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Fig. 3.—Mound builders' Map of the Sky.

*See book on Mound-builders.

one hundred and fifteen feet, surrounded by a ditch and embankment, with two entrances, one to the southeast and one to the northwest. Within the oval are the remains of a "cove" formed of standing stones, like those at Avebury and Stone Henge. The avenue which leads toward Gibb Hill was once supposed to give the form of a serpent to the monument, but the entrance resembles that at the Kennet avenue at Avebury, and is in the same direction. The works at Stanton Drew consist of three separate circles, arranged in line with a "cove" or trilith like those at Avebury and Arbor Lowe, arranged in such a way that a line in the direction of the northeast would pass through the center of the great circle. Here there is also a great single stone like the "friar's heel" at Stone Henge. The conclusion which Mr. Lewis draws from the study of all these works is that the stone circles, which are more numerous and larger in Britain than in any other part of Europe, were devoted to the worship of the sun and "perhaps of the stars." They were erected on a plan and were placed so that the circle would have a position with regard to some massive stone, or some prominent hill, or group of three hills, that the sun would shine over these into the circle and strike upon the altar inside of the "cove" at the time of its rising at the summer solstice. Now whether these circles can be regarded as furnishing any "map of the sky," or any symbolical geography, the resemblance between them and the circles, horse-shoes, crosses and other symbols contained in the earth-works of Ohio is certainly very striking.

III. Sky worship existed among the Pueblos and Cliff-dwellers and their descendants the Zunis and Moquis. There was associated with it a system of orientation and an extensive calendar system, also secret societies and many sacred ceremonies and a symbolical geography which is very surprising. It is very interesting to follow out the system as it existed here. Various authors have been engaged in the study of it and they have brought out many interesting facts. Among these may be mentioned Mr. Frank Cushing, Mr. James Stevenson, Mrs. Matilda C. Stevenson, Mr. Walter Fewkes and Dr. Washington Matthews.

Mr. Frank Cushing has given us many facts in reference to this. He says, the chief point in the horizon was the east and all other points were arranged with reference to this. The points were arranged leftwardly and counted around the horizon on the fingers, the east the land of day, the west, the land of night, the north, the home of the master of gods. The zenith and the nadir were also worlds, peopled by great gods; the middle was also a world by itself, thus making seven divisions of the sky and the earth. The middle was occupied by animals and men. The gods of the several regions were represented by the elders of clans, the elders of the north being in special

favor with the gods, and so the first in rank. Next to these were the elders of the west. The divinities or fetiches of the different clans had their rank according to the points of the compass, those of the north being first.

The order of all the dances must accord with this arrangement. Each region must be represented by appropriate leaders, clan leaders. The north, west, south, east, upper and lower, each region having a house for the gods. The dances were celebrated at the different seasons and by the different clans, their order being fixed by the precedence which the gods of the region above had over each other, the rank of the gods and the order of the dances following the cardinal points from right to



Fig. 1.—Circle, Crescent and Square at Hopetown, showing the 8x abotum of the Region

left. The Zunis also had kivas which were consecrated to these gods. In each of the cities or pueblos in the Gila valleys were temple kivas in which the chambers were arranged in a circuit, the doorways leading around from the east to the center, the northern and southern chambers being twice as large as the others to represent the upper and lower regions.

These temple kivas were strongholds, storehouses and homes of the priest rulers of each of the pueblos, as well as a place of sacred assembly, but embodied in themselves the six houses of the gods with the center making seven. The temple of Viracocha, Peru, was built on the same plan and probably owed its origin to the sequence of the cardinal points, similar to that of the Zunis. The ceremonial diagram in the prayer meal of the seven ancient spaces shows a four-fold circuit of entrance. Seven chambers in the diagram. The first entrance is at the north

and the last at the seventh or middle. The consecration of the field of the Zunis, the corn hills have a similar distribution, the yellow corn at the north, blue corn for the west, red corn for the south, white for the east, speckled for the zenith, black for the nadir and variegated for the middle. This location according to the cardinal points, of corn hills, kivas, sacred chambers and the sacred spaces was very ancient and prevailed among the Zunis more sensibly than any other tribe. The seven cities

FIG. 566



FIG. 567



Fig. 566. See Description of the Zunis.

of Cibola are supposed to have been built according to the same arrangement, for in these the totems of the north dwelt in a village by themselves, those of the west in another, of the south in another, and so of the eastern, upper and lower, whilst those of the middle dwelt in another town apart from all the rest, itself subdivided into wards or septs—as in modern Zuni, itself also the tribal head—ceremonially ruling all the rest, yet ruling through proto-priestly representatives of and from all the rest in due order of precedence; only, here in the midmost place, these were under the Sun or Father-Proto-priest, and the Seed or Mother-Proto-priestess in at least all religious and ceremonial concerns.

The idols of the Zunis exhibit the same symbolism as do the

sacred ceremonies. In these we see the arches of the sky, the turrets of the clouds, the feathers of the wind, the colors, the signs of the different quarters of the sky, the crosses of the cardinal points, the pictures of the celestial houses, the male and female divinities who presided over the houses and were the creators and ancestors of the people, each line and color of each idol having a hidden significance. See Fig. 11.

In reference to orientation, the Tusayan Indians of Arizona place their sacred or world divisions on an angle of from forty-five to fifty degrees west of north, and construct their kivas accordingly, resembling the well-known placement of the Babylonian and Assyrian temples, obliquely to the cardinal points, the angles instead of the sides facing north, west, south and east. The arbitrary placing of the world quarters was carried further by the ancient Incas, as shown by the orientation of Cuzco than by any other people, except the Chinese. The sun was the all-important factor in the universe, the maker of day and the renewer of light.

The seven ancient spaces were sometimes symbolized in the ceremonial diagrams, which were made on the floor with prayer meal, six chambers or houses being arranged around a central one. What is most singular, the ground plan of the ruins of Casa Grande shows a similar arrangement around a central room. This conveys the idea that there may have been a knowledge of the solstitial sun and an arrangement of the chambers or rooms in the villages so as to catch the rays of the rising sun.

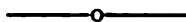
It is the opinion of Mr. Stephens and Walter Fewkes that the four cardinal points of the Moquis are determined by the summer and winter solstices. The first point toward the north is determined by the notch on the horizon from which the sun sets at the summer solstice, the second west by its setting in the winter, the third by its rising in winter, and the fourth by its rising in the summer. This brings the arrangement into harmony with the one with which Mr. Cushing has described, though it gives a different explanation.

The following "creation" myth has been given by Mrs. Stevenson: "When the people first came to this world they passed through four worlds, all in the interior, the passageway from darkness to light being through a large reed. They were preceded by two local divinities who dwelt upon the mountains, the one a hideous looking creature, the other a being with snow white hair, probably the personifications of the rain and snow, or the black cloud and white cloud. One of these descended the mountain and drew his foot through the sands. Immediately a river flowed and a lake formed, and in the depths of the lake a group of white houses, constituting a village. There was a belief that the spirits of the dead went to the beautiful village, and that there was a passageway through the mountains to the depths of the lake with four chambers, where the

priests of the divinities rest in their journey to the sacred waters. This myth is dramatized in a peculiar way in the kivas at the initiation of the children.

The superstition is that no male child can after death enter the spirit lake or have access to the sacred village in its depths unless he receives the sacred breath of the spiritual divinities, the Sootike. There are accordingly persons appointed who are to appear at the ceremony of initiation of the children and represent the different parts of the sky. The first ceremony takes place in the open air by day. The priest of the sun enters the sacred plaza, draws the sacred square with the sacred meal, a yellow line in the east, a blue line in the west, a red line in the south. Along these lines the god-fathers pass, each one holding the god-child on his back. As he passes the line the "Sootike" strikes the child with a large bunch of Spanish bayonets with such force at times as to draw tears to the eyes. These Sootike are persons appointed who are endowed with the breath and represent the different parts of the sky. The next ceremony takes place at night. In this the figure of a plumed serpent is introduced as a symbol of the rain god and carried by messengers of the sky divinities. They wear masks; those for the north, yellow; those for the west, blue; those for the south, red; those for the east, white; those for the heavens, all colors; those for the earth, black. These come to the village after sundown. They carry a serpent made of hide, about twelve feet long and eighteen inches through, the abdomen painted white, the back black with white stars. They pass through the town, visit each kiva and put the head of the serpent through the hatchway. This signifies the rain cloud passing over the mountains and occasionally descending into the valleys, bringing water and rain to the villages. This ceremony was a sacred drama which represents the different objects of nature, and takes place in the sacred kivas once in four years. An old priest stands and blows through the body of the serpent with a peculiar noise resembling that of a sea monster. The arrangement within the kiva is peculiar. The father of the sun sits upon a throne at the west end of the room. The high priest and priestess on either side of the throne. The war god sits at the left of the fire altar and feeds the sacred flames. The god-parents sit upon a stone ledge, which represents the third stage of the creation, each with a boy by his side on the ledge. Inside of the kiva are mounds of sand, on which are wands of feathers. Messengers of the north, east, south and west take these feathers, and go to each child and blow the sacred breath over the plumes into the mouth of the child. After this the feathered serpent appears. The high priest of the bow, of the sky, the priestess of the earth, ascend to the hatchway, holding a large earthen bowl to catch the water poured from the mouth of the serpent, *Ko-lo-o-owit-si*. Each god-father carries the

holy water to the boys to drink, and makes a gift of the bowl to the boy. After this the priests catch the seed which is sent from the abdomen of the serpent, in their blankets, and distribute the seeds to all present. In the morning the boys are taken from their homes to a distance from the village where they plant prayer plumes and make prayers to the sky divinities, the child repeating the prayers after the god-father. Here, then, we have the sky worship, as among the eastern tribes, and which has the same elements, a belief in the future, a dependence upon the powers of nature, the presence of divinities, the necessity of initiation into sacred rites in order to take the benefits of the nature powers. The imagery is all drawn from the mountains, lakes and rivers and the personification of the rain clouds and the snow.



EGYPTOLOGICAL NOTES.

BY WILLIAM COPILEY WINSLOW, PH. D., SC. D.

THE TEMPLE OF QUEEN HATASU continues to be a point of absorbing interest in archæological exploration. Dr. Naville's work receives the unqualified encomiums of such critics as Professor Mahaffy in the *Nineteenth Century*, the May number, for its highly scientific character. As a hieroglyphic scholar he is unsurpassed, and is now taking rank with the best practical excavators of the day. The Egypt Exploration Fund is doing work inferior to nothing in which it has been engaged; and which, in connection with its archæological survey, merits ample support from the public. *The London Times* observes of the Queen Hatasu site: "If the present undertaking can be carried through, the Egypt Exploration Fund will have the credit of promoting a unique monument to the select first rank of the spectacles of Egypt, and its publications of the reliefs and paintings, as well as all the minor treasures found, and to be found, will be more complete and not less artistic than the magnificent volumes which French munificence has produced."

Dr. Hogarth writes of the hypostyle hall, now cleared of its rubbish heaps, that it is one of the best preserved remains of antiquity in Egypt. The star-spangled ceiling rests on twelve sixteen-sided columns, over fifteen feet high; right and left are brightly-painted funerary niches, and the main walls show scenes still brilliant in coloring. South of this hypostyle is a portico corresponding in everything but excellence of workmanship to the famous Punt portico on the south side of the central causeway. It is very much ruined; the square pillars are only complete at the broken end, and very few of the architrave blocks or roofing slates are in position. The number of these fallen

masses of stone proved a great impediment to us, and we have been able this season only to clear the space between the western rank of pillars and the wall. By so doing we have laid bare a very interesting series of representations, concerning the preliminaries and circumstances of the birth of the queen. Her mother, Ahmes, appears, conducted by several divinities to the presence of Amen, and the god appears to her in the guise of her husband, Thothmes I., as in those well-known scenes in the Luxor Temple, relating to the birth of Amenhotep III. Much restoration has been done on this wall by Rameses II.; but the fine portraits of Ahmes herself have escaped his hand, and remain admirable examples of XVIIIth Dynasty art, both in moulding and coloring. The inscriptions, though defaced, are fairly legible. Among the debris, which has lain since an early period on the court bounded by this portico, the hypostyle and the colonnade, we have found most of our small objects of art in stone, ware, or paste. Not much statuary has been discovered; the best piece is the lower half of a kneeling statue of Senmut, the architect of the temple; and a very fine portrait head in sycamore wood, on a part of a mummy case, is worthy of special mention. Amulets, figurines, rings and scarabs, inscribed and uninscribed, have been discovered in considerable numbers; and in addition to countless separate beads, some fine necklaces of blue ware, still strung, with pendants attached, were found in the lowest layer of this deposit. Papyrus has been unearthed only in innumerable small fragments; the largest pieces have formed part of copies of the Book of the Dead.

The initial volume of this undertaking, with its plates of the Altar Chamber, the Hall of Offerings and the Chapel of Thothmes III., will be a brilliant foretaste of what is to follow. Dr. Hogarth considers that when the excavation is complete results of value bearing on Egyptian art will be attained.

The most dazzling discovery ever made in the valley of the Nile is that of M. de Morgan at Dashour, and perhaps it is the happiest hit ever vouchsafed an archaeologist in search of treasure. The treasures of jewelry and gems in this Aladdin's cave of the Usurtesens of the XIIIth Dynasty are reckoned at six hundred thousand dollars in value. Now comes the question if the Louvre is to profit by this mine of museum-wealth; for John Bull, on occupying Egypt, consigned all matters archaeological to French control. Of course, Gizeh will have the pick; but when royal gems by the pint and pound turn up *en masse* there is enough and to spare, liberally. Historically, this magnificent outpour is of comparatively little value. Yet have the newspapers, naturally enough, been surcharged with so sensational a discovery. And we cannot blame the majority of Nile tourists if the magnet at the Gizeh Museum is henceforth the Usurtesen showcase. The cry against fire must now include burglary.

Let the new museum, for which five hundred thousand dollars are appropriated, be secure both ways.

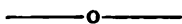
As if fecund Egypt was not intended to have any respite archaeologically, Dr. Petrie has exhumed at Koto, the site of the ancient Coptos, three unique and crude statues of the god Khem, which he more than surmises are relics of a period contemporaneous with the stone age in Europe. They are shattered; have heads with ears and beards, but without a face, which was supplied by a mask; their arms are puny and disproportioned, and the legs form a single piece, with a groove to designate the division between them. The sawfish and sea shells engraved on one of the fragments indicate that the people at Koto came into Egypt from the Red Sea, particularly as it is the Nile end of the great caravan route.

But Egypt, and now especially Great Britain, has another agitation. It is the proposed damming of the Nile and making an immense tract of Nubia into a reservoir, so that Egypt may not be watered too much at once, and too little (if at all) at another time. Aside from the destruction of monuments and sentimental considerations, is a scientific reason to my mind why vast forethought is needed. "Egypt is the gift of the Nile," because of its alluvial deposits. If the waters at the overflow be dammed up for a distance of a hundred miles, and be discharged in small quantities through sluices, will the precious sediment accompany the water? Will not the alluvium so settle in the vast modern "Lake Moeris" that, even with machinery to stir up the "grounds," comparatively little of the sediment will reach Lower Egypt, and, at best, be poorly distributed? To dam up so inconceivably vast a body of water means risk, as the breaking of any dam is not an impossibility. The humanitarian side of the question is not to be sneered at. Some say that the lands on both sides of the Nile for 150 miles above Philae will be submerged. The Nubians' home is there—where will he go? Doubtless a barrage is sure to come, but woe to that man who thoughtlessly or carelessly selects the site and builds thereon.

The volume "Ahnas," just issued by the Fund, reflects credit upon the society, particularly in its fine plates to illustrate the site of the biblical Hanes (Isaiah 30: 4) and the Heracleopolis of the Greeks. It is not generally known that the palm-leaf column in Boston, and the one at the University of Pennsylvania are from this site. The Atlas of Ancient Egypt, now received, fully justifies my expectations (see *THE ANTIQUARIAN* for May, p. 169), and I commend it to all readers of these notes.

The appointment of a secretary of the Fund, with an office, for the United States has long been a necessity. I feel assured that Miss Mary B. Comyns is the right person in the right

place. Every subscriber of this magazine will find a welcome at the office in Boston, and he will see interesting publications which may ensnare him to ownership in one of them. As our London office (37 Great Russell street) is opposite the British Museum, so our Boston office (15 Blagden street), adjoining the new Public Library, is "just across the way" from our museum. *Similia Similibus.*



EXPLORATIONS ON THE NORTHWEST COAST.

Prof. George Davidson, of the United States coast and geodetic survey, has recently given an address in Tacoma, Washington, upon the early discoveries and explorations on the northwest coast of America. After thirty-five years' service upon the coast he commenced to place upon record some of the results of his personal examinations. He traced the earliest efforts of Ulloa, who reached a position about forty miles north of Cerros Island in 1539. Then in 1542-'43 Cabrillo and Ferello, in two vessels, struggled to depict the coast much farther north. Their highest land fall was Fort Foss in 38 degrees 18 minutes, although they got as high as 42 degrees, but were then far out at sea. In 1579 Francis Drake, whom the professor designated as the captain-general of freebooters, made his landfall about Cape Oxford and anchored in Chetko cove about 42 degrees and 3 minutes, whence he sailed to Francis Drake's bay in latitude 38. There is a manuscript chart of Dudley's in the royal museum of Munich which is evidently founded on Drake's panitive and probably on his charts.

In 1602 '3 Vizcaino made thirty-two "plans" of the coast from Cape San Lucas to about latitude 42 and the resulting general chart exhibits every headland, island and bay of importance except San Francisco. His charts were only rediscovered in 1802. Then discovery rested 167 years to the land expedition of Portula, who discovered the Bay of San Francisco.

Particular stress was laid upon the capital work of Cook and Vancouver; and in a few sentences the professor connected Vancouver with the boundary question between British Columbia and Alaska; and then the chronometer longitude connection between Sitka and Tacoma.

Tacoma is now being connected by telegraph longitude with the coast survey longitude stations and thereby by various steps directly with Greenwich, which is the prime meridian of most of the maritime nations. This longitude work is what Prof. Davidson and his colleague, C. H. Sinclair, are now doing. - *Tacoma Ledger.*

PALESTINE EXPLORATION FUND.

BY THEODORE F. WRIGHT, U. S. SECRETARY.

On the fourteenth of May Mr. Bliss began work under the new firman permitting two years of work at Jerusalem, and our subscribers look forward eagerly for the beginning of a report in the July issue of the Quarterly Statement. It is a critical period in the work. So long as the government withheld its sanction, the information obtained through such work as was done by the monks in uncovering Bethesda has served to satisfy the public demand for light upon the historic past. The good Schick and the rest have sent valuable accounts of isolated discoveries made here and there in various unofficial ways. Thus for years the accumulation of information was gradual and informal.

The permit to dig at Lachish changed this and turned all eyes to the practical test of a tell examined by the Fund for the first time. It was an anxious season, but the first announcements of Mr. Petrie's discoveries showed that expectations would be realized. The further excavations conducted by Mr. Bliss set all doubts at rest, and any proposition by the Fund to open other tells, if permitted by the government, would have been received with satisfaction.

Instead, however, of being told that some other Tell would be opened, we were startled with the news that a most generous permit had been given to work at Jerusalem itself, at the very spot deemed most important to the verification of Bible history. What will be the result? Of course no one can tell and we can wait for the information as it is given out; but we can see beforehand that the future of the Fund hangs on the issue of this undertaking. If much be brought to light, the work will go on here and there for many years with governmental sanction and the aid of Bible lovers everywhere; but, if no results be obtained now, a deep disappointment will settle down like an extinguisher upon our present zealous interest.

What then are the chances? I do not hesitate to say that they are wholly favorable. The modern wall of Jerusalem runs across the hills of Zion. The older wall ran round its brow. Weak in a military estimate, the present wall has left outside of the city the very ground to be excavated. Had the wall made the circle of the hill, buildings would now cover the ground, but, as it is, we have a clear course for trenching from the hill Zion across the valley of the Tyropoeon to the hill Ophel and so southward into the valley of Hinnom. Not only do we ex-

pect to uncover the fortress Millo built by David, but also to see the foundations of Solomon's palace and the tombs of the Kings. Moreover the valley is filled one hundred feet with the debris of the past and much will be found in this vast accumulation. Instead of feeling any anxiety then as to the outcome, we are eager for the test, believing that the results will be such as to confirm the Fund in public confidence for a long time.

Certain books published by the Fund are often inquired for. I have therefore obtained a supply and will forward, postpaid, the following on receipt of annexed price:

Mound of Many Cities, Bliss, \$1.25; Recovery of Jerusalem, Nilson & Warren, \$1.25; Tent Work in Palestine, Conder, \$1.50; Syrian Stone Love, Conder, \$1.50; Heth and Moab, Conder, \$1.50; Mount Seir, Hull, \$1.50; Geology of Palestine, Hull, \$4.50; History of Jerusalem, Besant & Palmer, \$1.90; Bible and Modern Discoveries, Harper, \$1.75; Tell Amarna Tablets, Conder, \$1.25; City and Land, Wilson and others, 90 cents; Names and Places, Armstrong, \$1.25; Palestine Under Moslems, LeStrange, \$3.50; Judas Maccabaeus, Conder, \$1.25; Index to Quarterly Statements, 50 cents; Catalogue of Photographs, 15 cents; Photographs of Herod's Inscription, 15 cents; Photographs of Siloam Inscription, 15 cents; Photographs of Moabite Stone, 15 cents; Photographs of Jar Solet buried, 15 cents; Casts of Lachish Tablet, two sides, 75 cents; Casts of Lachish Tablet, one side, 40 cents; Casts of Samaritan Weight, 70 cents; Casts of Seal of Haggai, 55 cents; Casts of Inscribed Beed, 30 cents; Photographs of Contour Map, large, \$1.25; Photographs of Contour Map, small, 25 cents. The contour map is now to be had of Mr. E. E. Howell, 612 Seventeenth St., N. W., Washington, D. C., for \$55. It is perfectly finished, colored, framed, boxed for shipment, and warranted for safe delivery. The price is less than in London, but the work is equal.

For the encouragement of others I subjoin a list of subscriptions so far received in 1894:

TWENTY-FIVE DOLLARS.

Miss Louise Kennedy, Concord, Mass.

TEN DOLLARS.

Scranton Public Library, Rev. J. T. Barber, Rev. J. M. P. Ous, L. L. D., E. B. Sturges, Esq.

FIVE DOLLARS.

Mrs. A. L. Hopkins, Miss R. S. Lowery, W. A. Stewart, Mrs. C. E. Van Cortlandt, W. H. Baldwin, Miss M. A. Sharpe, Miss E. E. Dana, Daniel Holmes, Esq., Miss L. H. Barrow, Mrs. Henry Farnam, E. W. Clark, T. F. Wright, Mrs. A. T. McCintock, Rev. James Carter, Miss L. Freeman Clarke, Wm. Niles, Esq., Wm. Gurnell,

George T. Little, Col. F. Fairbanks, Dr. T. C. Billheimer, Miss F. W. Blackwell, A. Dempster; anonymous, Wellesley College, Prof. J. H. Thayer, D.D., George Vaux, S. Wilson Fisher, D. L. Webster, C. W. Shane, H. E. Pierrepont, E. F. Billings, Samuel Small, Toronto Y. M. C. A., Edwin Parsons, Rev. J. Easter, Ph. D., Rev. B. R. Wilburn, J. W. McNary, G. F. Billings, Pres. D. C. Gilman, Rev. John Worcester, R. D. Douglas, Miss E. W. Stevenson, H. E. Nitchie, Rev. L. W. Kip, Mrs. E. D. Perkins, Rev. James W. Fenn, Charles Buncher, H. E. Deats, Mrs. Elizabeth A. Slade, F. G. McKean.

THREE DOLLARS.

Mrs. E. H. Pearson.

TWO DOLLARS AND A HALF.

The Rev. A. S. Dobbs, D. D., Mrs. S. B. Cone, Prof. W. W. Davis, Miss F. E. Harding, Rev. J. Morrow, D. D., Prof. J. Strong, D. D., Dr. J. H. Morrison, J. H. Perry, J. A. Thompson, Rev. J. Zimmerman, C. S. Carrier, Esq., Rev. J. A. Johnston, Rev. A. A. Williams, Rev. F. P. Miller, Rev. S. S. Seward, Rev. J. Humberger, Frank Wood, Mrs. Frank Wood, Rev. S. C. Bartlett, D. D., Rev. W. W. Atterbury, D. D., T. P. Barnefield, Prof. R. W. Rogers, Boston Cong. Library, Prof. D. G. Lyon, Rev. E. Horbruck, Dr. G. S. Stevens, Prof. W. W. Moore, Alexander Strong, W. W. White, Mrs. R. B. Scott, Prof. J. W. Beardslee, Prof. F. S. Goodrich, H. W. Preston, White Library, Cornell, Rev. W. W. Adams, D. D., A. P. Putnam, D. D., Rev. G. F. Williams, R. S. F. Dike, D. D., Miss Mary Evans, Rev. W. C. Winslow, D. D., Rev. J. L. Ewell, William A. Shaw, Miss Grace T. Davis, Rev. J. T. Ladd.

The April issue of the Quarterly Statement contained, besides other illustrations, six photographs of the famous sarcophagus found at Sidon and believed by many to be Alexander's. I have extra copies and can date back subscriptions so as to include April.

42 Quincy St., Cambridge, Mass.

Correspondence.

THE CHEROKEE CALENDAR SYSTEM.

Editor American Antiquarian:

My reply to your inquiry concerning the Cherokee calendar has been delayed by pressing business. Excepting in the retention of five seasons, the Cherokees have entirely lost their old system of measuring time and have now only the regular white man's way of counting days, weeks and months. For days and months, they have names in their own language, and weeks are counted by Sundays, *i. e.*, next week is expressed as "after Sunday," and three weeks as "three Sundays." Seven is a sacred number in their mythology and ritual, but has no connection with their present calendar system, excepting as borrowed from the whites. Their year formerly began in spring. I enclose present names of months (which they still call *moons*) and seasons.

Months—January, Unálatúnti, refers to the wind driving objects short distances; February, Gúgáti; March, Anúyí, refers to strawberries (anú); April, Kúwánti, refers to ducks (?) (kawánú); May, Unaskúti, refers to making pottery (ánti); June, Téhalúyí; July, Guyegwánti; August, Gálúnti, refers to the drying up of the streams; September, Dulistí; October, Dunináti; November, Nantátégwa, "large moon"; December, Unskiyí.

Seasons—Spring, Gagéyí, "near the summer"; Summer, Gagí; Early Autumn, Gúyú; Late Autumn, Ulagáhústú, refers to the falling of the leaves; Winter, Gálú.

JAMES MOONEY,
Bureau of Ethnology, Washington, D. C.

THE MAYA LANGUAGE.

Editor American Antiquarian:

I am satisfied now that I have made that connection between the old and new world we have been so long hunting for.

I find that the Maya language is beyond all question a direct offshoot from the Malay. The proof of this is so full, so clear and so complete that it will silence all opposition on the part of linguists. In construction the Maya is much nearer the Malay than are the Polynesian languages, there are more than twice as many Malay words in the Maya than in all the Polynesian dialects together.

This comparison has certainly never been made before, for linguists could not have overlooked the relation.

CYRUS THOMAS.

Editorial.

THE ZODIAC AND ORIENTATION IN AMERICA.

The description of sky worship in America introduces the inquiry, How much did the American races know about astronomy? This is not easily answered, yet there are some facts which throw light upon the subject, and so we propose to consider it. First, let us say that a book has recently appeared in England called "The Dawn of Astronomy."* This book treats mainly of the mythology and early astronomy of Egypt, but it enables us to draw a comparison and is of great importance in understanding the subject of astrology in America. It shows the different stages through which ancient astronomy passed, and reveals the views which were held in the east and the different elements which were brought together by the history of sky worship. The author divides the observation of the heavenly bodies into three stages—the first for wonder and worship; the second for utility, the observation of the seasons, the direction of religious feasts and the processes of agriculture; the third for the knowledge of astronomical principles, the first two stages being associated with mythology.

The oldest and most primitive form of nature worship known to history was sabæanism. This existed among the Aryans at an early date. In it the earth (Prithivi); the sky (Varuna); the water (Ap); the fire (Agni); the storm-gods (Maruts), were all personified and worshiped as deities. It is mentioned in the Vedas that the sky and the blue ocean are "Varuna's loins." "Varuna stemmed asunder the wide firmament. He lifted up on high the bright and glorious heavens. He stretched out the starry sky and the earth." Among the Persians there was a more or less conscious opposition to the gods of nature and a striving after a more spiritual deity. This resulted in dualism. Still prayers were offered to the dawn, and the contest between light and darkness was personified. The darkness, called Ahiman, was overcome by the god of light, Ahrmuzd. Among the Chaldeans, the sign for a god was a star, and the temples were constructed in strict relation to the stars. Even the divisions of the earth were arranged according to the "geography of the heavens." The temple in the center was built in terraces, each terrace sacred

*The Dawn of Astronomy, a study of the temple worship and mythology of the ancient Egyptians. By J. Norman Lockyer. New York and London: MacMillan & Co. Price \$5.

to a planet or star, the upper shrine sacred to the sun.* A similar arrangement appeared in China at a very early date. The great temple of the sun at Peking was called the Temple of Heaven. It was also built in terraces, like the pyramids of Chaldea. It was surrounded by a wide pavement, and in the pavement were nine circles of standing stones, the circles representing the nine heavens, the stones increasing in nines until the last circle was composed of eighty-one stones. In the center of these circles was the altar at which the emperor knelt on their New Year's Day, the twenty-first of December, at the winter solstice, and acknowledged himself inferior to the heavens, and offered sacrifices to secure a prosperous season. The twenty-eight constellations of the Chinese zodiac were contained in this Temple of Heaven. Tablets were erected to the sun, moon and stars. The Chinese also had the dragon and the tortoise for emblems of the sky. There was on the shell of the tortoise the "map of the heavens and the earth." The tortoise lives in "the lake of the stars." It has eight feet and six eyes. On its under shell it has the image of five summits and four canals, on its upper shell, images of sun, moon, eight celestial regions, seven stars of the great dipper, which is the northern measure or bushel, making the celestial and terrestrial map. The four canals refer to the four rivers, the five summits to the five mountains.

The Chinese were called celestials because their empire was divided after the celestial spaces. The emperor was the center of all. The nine circles are peculiar to the Chinese, though Dr. Bahr speaks of nine squares which are alluded to in Persian and Hindoo sacred books, made of four celestial and four terrestrial, with a central square.

Among the Chaldeans, the luminous and celestial region of the East served as the abode of the great divinities. In the book of astrology, compiled by the orders of Sargon (2000 B. C.), the country of Accad or Chaldea, was the center of the universe, the four regions, with Elam to the east, Phoenicia to the west, Goene to the north, and Subarti to the south, formed "mystical square" and "planetary sea," and represented the "Cosmos."

In America there was also a map of the sky though the divisions were different, for there were among the Zunis and Navahoes, squares surrounding a central square, four for the horizontal spaces, two for the zenith and nadir, with a central one, making seven.

Among the Egyptians the conception of the sky was that the

* The temple of the sun at Peking was called the Temple of Heaven. It was also built in terraces, like the pyramids of Chaldea. It was surrounded by a wide pavement, and in the pavement were nine circles of standing stones, the circles representing the nine heavens, the stones increasing in nines until the last circle was composed of eighty-one stones. In the center of these circles was the altar at which the emperor knelt on their New Year's Day, the twenty-first of December, at the winter solstice, and acknowledged himself inferior to the heavens, and offered sacrifices to secure a prosperous season. The twenty-eight constellations of the Chinese zodiac were contained in this Temple of Heaven. Tablets were erected to the sun, moon and stars. The Chinese also had the dragon and the tortoise for emblems of the sky. There was on the shell of the tortoise the "map of the heavens and the earth." The tortoise lives in "the lake of the stars." It has eight feet and six eyes. On its under shell it has the image of five summits and four canals, on its upper shell, images of sun, moon, eight celestial regions, seven stars of the great dipper, which is the northern measure or bushel, making the celestial and terrestrial map. The four canals refer to the four rivers, the five summits to the five mountains.

firmament was a double arch or sphere, the lower arch filled with the stars, the upper filled with the sun and moon. This was personified and represented as a female figure or goddess Nu, who bends over the earth (Seb), with her feet on one horizon and her finger tips on the other. The earth is a recumbent figure below the sky. This conception is represented in the cut. Fig. 1. Here the human figure is double, the body of the goddess dividing the firmament



THE GODDESS NU-T REPRESENTED DOUBLE.

into two spheres. The winged globe symbolizes the sun; the beetle with wings spread, symbolizes the moon; the figure holding a boat in the hands symbolizes the passage of the sun over the arch of the sky. The whole figure furnishes a map of the heavens with the sky personified. There is, however, in America, a very similar way of symbolizing the sky divinity. It prevails among the Navajo Indians. The sky is a circular hut, over which is stretched the personified arch of the rainbow, the feet upon one side of the hut, the head and arms upon the other, but

the rainbow itself forming an arch over the hut. The analogy is carried out still further in that the door of the hut is made up of different colored skins, the white to represent the dawn, the black skin to represent the darkness.*

Here then we have very striking analogies in the way of representing the firmament and the sky in the east and the west, all nations having a very similar conception of the sky itself, but each one having a different map or chart in which it recorded its own mythologies, the divisions of the sky being peculiar to each.

2. The next question is in regard to the zodiac. The zodiac was very ancient and is supposed to have been known even in prehistoric times. Mr. Lockyer speaks of the zodiacs which were found in the ancient temples of Egypt, one of them at Denderah. In this zodiac, the stars are represented as mythological personages sailing along in boats. The signs of the zodiac are the fish, the ram, the bull and the twins. In the middle section, the sun's course in different parts of the day is given. In this zodiac we find the animals peculiar to Egypt. The figure of the cow, little bear, jackal, the hippopotamus. Farther east, we find that the constellations are made up also of animals, but animals which are more familiar. Here we have the Great Bear, Sirius; the Great Dog, Aldebaran; the Bull; the Little Bear and the Dragon; also Arcturus, the Archer; Orion and the Pleiades. These constellations were known to the ancients, for they are recorded in the Scriptures in the book of Job, in Homer, in Hesiod and other Greek poets. "Canst thou find the sweet influences of Pleiades or loose the bands of Orion; canst thou bring forth Mazzaroth in his season, or canst thou guide Arcturus with his sons?" The constellations were also known in America and were regarded as parts of the zodiac and were given names which resembled those common in the east. It is interesting to trace out the charts which represent the sky among the different tribes, civilized and uncivilized.

To illustrate, the Osages have a chart in which there is a tree and a river flowing at the root of the tree. The tree is the tree of life. Beneath the river are the following objects: the morning star, the six stars, the evening star, the little star, the moon, the seven stars and the sun, the peace pipe, the war hatchet, the four heavens, represented by four parallel lines, the lowest heaven resting on an oak tree, each space supported by a pillar or ladder at the end of the line. Above the heavens is the arch of the sky and the head of a man over the arch. This chart represents the worlds through which the ancestors of the people passed before they came to the earth and the time when they had human

* The analogy is carried out still further in that the door of the hut is made up of different colored skins, the white to represent the dawn, the black skin to represent the darkness. The analogy is carried out still further in that the door of the hut is made up of different colored skins, the white to represent the dawn, the black skin to represent the darkness. The analogy is carried out still further in that the door of the hut is made up of different colored skins, the white to represent the dawn, the black skin to represent the darkness.



INNER COURT AND SANCTUARY AT EDFÚ.
(From a Photograph by the Author.)

souls in the bodies of birds. The ascent to four heavens and the descent to them make up the number seven.*

The Mexicans represented the zodiac by a figure of a man with the symbols for the days of the months arranged around the person, with lines drawn to the different parts: the rose, to the breast; the eagle, to the right arm; the vulture, to the right ear; the earthquake, to the tongue; the wind, to the liver; the rabbit, to the left ear; the flint, to the teeth; the air, to the breath; the monkey, to the left arm; the cane, to the heart; the herb, to the bowels; the tiger, to the left foot; the serpent, to the male organ. These were the names of the days of the months. Most of them were names of animals. They served an important part in the calendar system of the Mayas as well as the Mexicans. They were ordinarily arranged in squares following one another in regular succession, but they were occasionally, especially in the codices, arranged in the form of a maltese cross, the spaces or arms filled with symbolic trees, in which were birds, human figures below the trees. These animal heads, symbolizing the days, were at the corners or angles of the cross.

3. The division of the zodiac seems to have varied with the different nations. Among the Chinese, there were twenty-eight stations; among the ancient Accadians there were only twelve signs of the zodiac, but among the Mayas there seem to have been twenty: one for each day of the month, but there were thirteen days according to the sacred calendar, and eighteen months according to the secular calendar. The signs of the zodiac were contained in the famous calendar stone called the Rosetta stone. The stone in Mexico which answers to the Rosetta stone is called the sacrificial stone, and is preserved in the museum of Mexico. It shows the skill of the Mexicans in arranging the symbols of the sky and making a calendar out of them. In this we see the face of the sun occupying the middle space, the four squares arranged around the sun, the twenty animal heads, or day symbols, in a circle outside of the squares, a fourth circle divided by four points of the compass, a fifth circle, with grains of corn, divided by the alternate angles, a sixth circle, divided by towers, a seventh, composed of the body of a double snake, itself divided into ten spaces, the whole making a map of the heavens as well as a calendar stone.

*See Usage Chart, Tenth Annual Report of Bureau of Ethnology, page 251.

SOLSTITIAL ORIENTATION.

The subject of orientation is more interesting than this one of the zodiac or the calendar. The comparison between the system of the east and the west is very instructive.

According to Mr. Lockyer, the temples and the pyramids were all of them orientated. Some of them were orientated toward the sun, while on the equator others were orientated to the rising and setting sun at the solstices, and still others toward the stars.

The author thinks that the pyramids of Memphis, Tnis, Sais, Bubastis were equatorially orientated, that the temples of Abydos and Amen-Ra were solstitially orientated. The alignment of the temples is the most interesting feature. There are temples which are so aligned that the sun at the summer solstice shines through the whole length, 600 yards, and shines upon the shrine in the deep interior, causing it to shine with a "resplendent light." This was the case with the temple at Amen-Ra, as well as the more modern temple Edfu. The entrance to this latter temple was guarded by a massive exterior pylon. This reduced the light so that it should shine into the temple itself. Further, the arches from the entrance to the end, was covered so that within the penetralia, there was only a dim religious light, but the sun shone through the entire temple and struck upon the wall of the shrine at the back. The temple was directed toward the place of the sun's setting, and the narrowing doors were so contrived that the temple should prove a great astronomical telescope. The narrow shaft of light was directed and concentrated until it reached the shrine, which answered as the eye piece. We have here the true origin of our present method of measuring time. The magnificent burst of light at sunset into the sanctuary would show that a new true solar year was beginning. The summer solstice was the time when the Nile began to rise. The priests were enabled to determine not only the length of the year, but the exact time of its commencement. This, however, they kept to themselves. The year in common use, called the vague year, began at different times of the true year through a long cycle. Here we find the analogy between the Egyptian and the American systems very startling. There were two calendars in America—one recorded the vague or common year, the other recorded the sacred year.

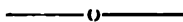
The effort of the priests was to keep the people ignorant of the sacred year. The vague year was corrected by intercalary days, which were sacred to the sun. The system of orientation helped the priest to keep the calendar correct. There seems to have been also two systems of orientation, one for the temples, the other for the palace. The temples were orientated to the

solstitial sun, but the palaces to the cardinal points. We find, at least, that the shrines were so placed upon the pyramids that the sun would shine through the double door-way and strike upon the tablets upon the back of the inner sanctuary, where were the various symbols of the cross, tree, bird and sun. The light would cause these symbols to stand out clearly. The offerings were presented to these as if they were divinities. They were offerings to the nature powers and the sky-divinities as much as they were to the sun-god. In the palaces at Copan the idols which contained the portraits of kings were arranged around the four sides of a square. There were altars in front of the idols, but we do not learn that there was any effort to direct the rays of the sun into the faces of these idols. There was a great difference between the temples and the palaces in this respect. Even the alignment of the walls of the temples formed an angle with the walls of the palace and its courts, showing that there was a regard to the solstitial sun in the temples, but an orientating to the cardinal points in the palaces.

The most interesting of the Egyptian temples were those that were drawn out of line on account of the precision of the equinoxes. The duration of the temples was such that every three hundred years there would need to be a change in the direction of the axis of the temple or the light of the star would be obscured, as the stars were slowly changing their places in the sky. The discovery made by Mr. Lockyer was to the effect that the temples which were drawn out of alignment was not owing to the symmetriphobia, but the lack of symmetry, or as owing to another intent or purpose. Some of the temples had become useless by reason of the change of the position of the stars. The ancient temples would have an alignment favorable to the old position. The later temples would have their alignment at an angle. In this way the date of the erection of the temples may be calculated, the position of stars forming a measure which would determine the lapse of time between the two classes of temples. This may seem theoretical, yet the author has made many remarkable discoveries and has furnished a clue for the solution of some of the dark problems in Egyptology. The book is quite revolutionary in this respect. He says: "In the early days, 3000 or 4000 B. C., we must assume that the people had not the slightest idea of the precessional change, but with a star changing its declination in an average way the same temple could not be used to observe the same star for more than two or three hundred years. At the end of that time, if they wished to observe a particular star, they must either change the axis of the old temple or build a new one. As a matter of fact, the axis of the temples have been changed. A great deal of work has been done on many of the temples in order to give them a twist. He refers to the temple of Luxor as an illustra-

tion. The suggestion is that after the temple had been built a certain number of years the anplitude of the star had got a little out of the initial line, so the direction was changed and an outer court was added. Afterwards there was another outer court, and another remarkable change, in fact, four well marked deviations.

The temple represented in the frontispiece is a restoration by the French commission. It represents a solemn ceremonial which took place at the great festival of the Nile rising, and the summer solstice. Besides the morning ceremonial there were processions of the gods during the day. How long these morning and special yearly ceremonials went on before the dawn of history we, of course, have no knowledge. The morning star watched by the Egyptians at Thebes, certainly 3000 B. C., was Sirius, the brightest of them all, and there is completed evidence that Sirius was not the star first so used."



NOTES.

THE plates used to illustrate the editorial were kindly loaned by Mac-Millan & Co. of New York.

THE *fourth volume of the Journal of American Ethnology* is devoted to a description of the Snake Dance.

THE tenth annual volume of the Bureau of Ethnology is at hand.

AN ANCIENT CITY in Arizona has been discovered and various parties have started to visit it.

THE FIELD COLUMBIAN MUSEUM has been opened with appropriate ceremonies. Mr. Holmes, of Washington, is to be the curator of the department of anthropology.

THE British Archaeological Association has elected Rev. William Copley Winslow, of Boston, to honorary membership. He is honorary fellow of the Royal Archaeological Institute.

LACOMA. Lectures before the Academy of Science of Tacoma were delivered during the winter by Judge Wickersham, by Prof. George Davidson, of the U. S. coast survey, the latter on the early discoveries on the north west coast.

TEMPLE OF ISIS. The damming of the Nile, proposed by the government of Egypt, threatens to flood the temple of Isis, on the Island of Philae. The Society of Antiquaries has put on record a protest against the destruction of these monuments.

A STATE EXPOSITION is to be held in this city in August, at which there will be an especial department devoted to ethnology, of which Judge Wickersham will have charge. There will be gathered a large number of archaeological relics and representatives of the various tribes of Indians. The collection of Mrs. Alice M. Knize, which is one of the finest in America, will be placed on exhibition. Judge Wickersham has been giving attention

to the various specimens of shuffets, which have been found in Washington. This is a weapon which is an exact imitation of the New Zealand weapon. Some of them are in stone, some in copper and some in bronze. An article on these specimens has been promised to *THE ANTIQUARIAN*.

PALEOLITHICS.—The discussion on this subject still goes on, though no discovery of the bones of extinct animals has yet brought the rude relics of America into direct harmony with those of Europe. The question whether pottery is to be found in the paleolithic age in Europe also divides the archaeologists.

A PAPER by Mr. J. A. Watkins was read before the Academy of Science, New Orleans, on the Choctaws. Col. Preston Johnston, in commenting on it, said the Choctaws stood, in point of intellect, next to the Azteca. After them came the Natchez, who were exterminated in 1731, but Mr. Beer stated that there were two towns where the Natchez language was still spoken.

RECENT FINDS.—At Southwork, England, near the Marshal Sea prison, many old piles, on which was marshy ground, perhaps the remains of lake dwellings, also many flint implements of the neolithic period. Near Oxford, England, some finds with regard to "river-valley" man, usually labeled "paleolithic man." Mr. A. M. Bell is about to publish a paper on the find. Some interesting circles and walls, with altars or stones, designed for holding fire, have been found in Wales.

J. WALTER FEWKES.—This indefatigable laborer in the field of ethnology has recently published several monographs on the Tusayans, one entitled: *The Palu Lu-Kopi-Ti, a Tusayan Ceremony. The Na-Ac Nai-Ya, by a Tusayan Initiation Ceremony. The Kinship of a Tanou-Speaking Community. On Certain Personages also appear in a Tusayan Ceremony. A Central American Ceremony which suggests the Snake Dance of the Tusayan Villagers.*

THE following are the positions which Mr. Fewkes takes on the Tusayan Ethnology. "There is a great likeness between the Aztec God Quetzalcoatl, the Maya Kukulcan, and the Hopi Bä-lü-lü-kon, and the mythological being called Kolowitsi, all of them having the symbol of the plumed serpent. There is a vein of similarity running through the nature worship and symbolism of all American tribes. (The system of matriarchy prevails among the southwestern aborigines, as among the eastern savage hunters. The husband, on marriage, goes to the house of his wife, and the children belong to her gens.)

He writes also, in reference to the death of Mr. A. M. Stephens, the following words: "The sad death of Mr. Stephens takes from American ethnology a most devoted and conscientious observer, and the only white man who could be called an adept in their languages. I hope some one will arise who will study them with the devotion he has shown for the last twenty years."

BOOK REVIEWS.

Folk Tales of Angola. Fifty Tales, with Ki-mbundu Text, literal English Translation, Introduction and Notes. Collected and Edited by Heli Chatelain, late United States Commercial Agent at Loanda, West Africa. Boston and New York: Published for the American Folklore Society by Houghton, Mifflin & Co. 1894.

Now that the geographical problem of the dark continent has been solved and Europeans have penetrated the deep interior, it is high time that the folklore of the native tribes was collected, for the experience in America is a warning. Here there was an opportunity fifty years ago which was not improved, and now it is exceedingly difficult to collect the folklore of the Indian tribes, and when collected it is difficult to separate it from that which has been introduced by the white man. The author speaks of the failure of African explorers to furnish anything more than accessory parts, but gives much credit to the missionaries for revealing the mnemonic archives of the African nations, among whom are Krapf and Steere in East Africa, Grout, Colenso and Butner in South Africa, Bently Mackey in West Africa. He says that South Africa is the best worked field. Bleek published translations of forty-two short tales collected by the German missionaries in 1860; Dr. Callaway, 1860-70, printed his Zulu nursery tales and religious system of the Zulus, containing the Zulu tradition of creation, ancestor worship, divination, etc.; Theal, in 1886, his volume on Caffir folklore. The following characteristics of African folklore are mentioned: 1. Many of the favorite heroes of mythology and peculiar incidents which have been called universal can be traced through Africa from sea to sea; e. g., the story of Reynard, the fox, etc. 2. It is especially rich in animal stories. Each personified animal is made to play the same role. 3. A great number of stories are used to account for the origin of natural phenomena. 4. Superstitions are similar to the popular conceptions of the Aryan and other stocks of mankind. 5. In African folk tales the animal world and the spiritual world are organized and governed just like the human world. In Angola the elephant is the supreme king of all animal creation. The author says that the repeated assertion that Africans are fetishists is utterly false; nor are they polytheists or idolaters, for they believe in one great invisible God, though they do not formally worship him. A few generalizations about the people of Africa are given in the introduction, as follows: "What constitutes a nationality in the natural state is much less the political organization than the language. A people speaking one language constitute a nation, each tribe has its own dialect." "As fatherhood is never absolutely certain, the mother determines kinship and heredity." In former times every tribe had a chief, or king, chosen in one family according to the tribal law of succession. Each native community forming a village or town is governed by a chief. The council of elders forms the legislative and controlling power and is composed of all the adult males. This council delegates the executive power to the chief. Professional medicine men constitute a kind of secret order. They secure the friendship of the demons by presents or by sacrifice. This constitutes the only visible worship or cult of the Bantu negro. Here, then, we see the striking analogies between

the African tribes and the North American Indians. These analogies are given in the introduction to the book. One cannot find them in any of the folk tales which constitute the body of the book. In fact there seems to be a great contrast between the folk tales here published and those found in any other part of the world, and in this respect the book is somewhat disappointing. There are many other parts of Africa where the analogies are perceptible in the folk tales themselves and one is interested in reading the translations, because of the frequent resemblances. The Folklore society of America deserves great credit for publishing the book, as it is not likely that any publishing house would make it pay except as subscriptions were first secured. It is introductory to a series, and the hope is that the series will grow until it furnishes the means for comparative study and would make a library of itself.

A Mound of Many Cities, or Tell-el-Hesi. Excavated by Frederick Jones Bliss, M. A. New York: MacMillan & Co. 1894.

In the autumn of 1890 Mr. F. J. Bliss, the son of the missionary at Beirut, was asked to carry on the excavation which had been begun by Dr. Petrie at Tell-el-Hesi, in Southern Palestine. He began the work in March, 1891. He uncovered the foundations of eight different cities and reduced half the mound, which was sixty feet high, to the level of the plain. The cities which he uncovered belonged to the period which elapsed between the exodus from Egypt to the exile, from the seventeenth century B. C. to the fifth century B. C., and for this reason his excavations were interesting, for they were calculated to throw light upon the Scripture history. The first city was at a depth of sixty-five feet. In this he found a group of copper relics, spear-heads, adzes, knives and axes, which, in many respects, resemble those found among the emblematic mounds of Wisconsin. To these he gives the date of 1700 B. C.

In the second city he found blast furnaces, designed, probably, for baking pottery. He gives this the date of 1400 B. C.

In the third city he came upon a tablet which contained an inscription written in the cuneiform language. This tablet has been deciphered. It was translated by Dr. A. H. Sayce, and proved to be the other end of a correspondence which had been carried on between the King Amenhotep III. of Egypt, one of the pharaohs, and Zimrida, the governor of Lachish. It appears that in 1887 the tablets were discovered in Egypt at Tell-el-Amarana by a peasant woman, also written in the cuneiform. This correspondence seems to have contained the buried records which speak about the days of Abraham, when he pitched his tents in the neighborhood of Hebron. It was a single tablet, but is very eloquent in its lesson. The city appears to have belonged to the Bronze Age, for there were found in it articles resembling those which belonged to the Swiss lake-dwellers of the early bronze age. A large spear with a rivet, bronze chisels, a borer or drill, hair pins, needles with eye-holes, a bronze knife, pottery painted in red and black. We thus form an idea of the culture of the period, a culture which elsewhere was not attended with writing.

In the fourth city (depth thirty-two feet) there were found a bronze idol with gold collar, pottery, figures resembling those of Greece, also a building made of mud brick, walls five feet thick. Scarabs and beads, covered with stags, resembling those found by Schleimann, at Troy, and many

bronze objects, also corn grinders, resembling the ollas, as found in California. This was a Phœnician city. A very interesting article was a button or stud, resembling the spool ornaments of America, but containing on its surface one of those peculiar symbolic Manitou faces, with eyes made up of concentric circles, nose, mouth and eyebrows made from a double crescent.

From the fifth to the eighth cities, iron tools were found. We learn from this book that the art of writing was known before the time of Moses. We have also a picture of the state of society which prevailed before the exodus and in the time of the Judges, and are able to compare it with the picture of Greece and Asia Minor as brought out by Homer in his *Odyssey*, the archaeological relics furnishing the records in one case and the poem in the other. These discoveries enable us to understand the Scriptures better.

Cartier to Frontenac. Geographical Discovery in the Interior of North America in its Historical Relations (1534-1700. With full Cartographical Illustrations from Contemporary Sources). By Justin Winsor. Boston and New York: Houghton, Mifflin & Co. 1894.

The history of discovery, as illustrated by maps, has been a favorite study with Mr. Winsor for many years, and he has had unusual privileges in prosecuting it, as the collection of maps in the library of Harvard College is unrivalled. This collection was begun by a Boston merchant seventy five years ago. These maps received their first presentation to the public in the "Narrative and Critical History." The history divides itself into four periods, one of which began with Cartier, another with Champlain, a third with Marquette, Joliet, LaSalle, and a fourth with Frontenac. As the coast line of America was slowly developed the two continents began to be distinguished, but the separation from Asia was still hidden—the notion remaining long after the death of Columbus that in some way China was to be reached either by sailing around the land to the south or the north, or through the land by some open water course. This notion led many of the explorers up the St. Lawrence, through the chain of lakes, up the Fox, and down the Missouri, and up the "big river," with the hope of finding the south sea or the water way to India. The notion of a great transcontinental sea was not eliminated until 1641—one hundred and fifty years after the first discovery. Keymbant, the Jesuit, hoped to reach China across the wilderness. The aggressions of the Iroquois, by which the Hurons and Algonquians were swept from the St. Lawrence, began with Champlain's campaign. But the subsequent residence of the Jesuits among the Iroquois brought out the fact that war parties were fitted out to go to the affluents of a great river, which led to a region where were white men who made prayers and called the people to meeting with a bell, like the Black Robes. This was followed by the discoveries of Marquette and LaSalle, and so the map of the interior was gradually corrected. It is interesting to trace out the progress of discovery in the maps presented in the volume and see how a knowledge of the lakes and of the rivers of the interior grew up. The St. Lawrence was the great channel by which the early explorers penetrated the interior, and so the story of the St. Lawrence, with its tributaries, the Great Lakes and the Ottawa River, is really the history of the interior. We know that the French were the first European explorers who were able to lay down the shape of the lakes and the connection with one another for a large period which comprised two centuries and a half, which lasted one hundred and fifty years, and even though during that period were better able to lay down the course of the Gulf of Mexico even to locate the Niagara Falls, or even to trace the outlet of Lake Huron to the lower Mississippi to its mouth. The book is very instructive in these points and the maps contained in it are very valuable to be sure. They are as valuable as to one who desires to follow the trail of the Indians, though the author makes no attempt at this, as the story of the Indians seems to be beyond the scope of most of the volumes which he has written.

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A CONTRIBUTION TO CHACTA HISTORY.

BY JOHN A. WATKINS.

The Chactas were a noble race of men. Their policy was peace, but they were always ready to defend their rights against aggression, no matter from what source it might emanate. The peace of the nation was seldom menaced by internal dissensions, but there could be no friendship with their restless neighbors, the Creeks. They maintained friendly relations with the French, and afterwards with the English, but in process of time a great change took place; a nation had suddenly sprung into existence to whom conquest was a pastime; a nation strong in its individuality, peaceful in its policy, fixed in its determination not to submit to a divided empire. While this nation possessed lands, extending from the Atlantic Ocean to the Rocky Mountains, with the exception of a few aboriginal claims, it was their settled policy to extinguish these as circumstances might demand. The question of right was not entertained, consequently the Chactas, for many years, had been looking forward with anxiety to a time when they would be called upon to part with their lands in Mississippi. But while the subject was discussed among all classes, there was only one opinion. A demand was made they should meet it in a proper spirit, and treat upon such terms as if both were independent nations, possessed of equal rights, and free to buy or sell, as interest or inclination might prompt. It was difficult to persuade the masses that the United States would act in good faith, should a sale be made, and in addition, they were reluctant to abandon their homes, the scenes so long familiar to them, the graves of their ancestors, with many other cherished recollections, which would naturally cling to them wherever their future destination might be.

In 1820 the crisis came; the government appointed commissioners to negotiate for the purchase of part of their lands. The

agents for this object were well selected, being Generals Jackson and Hinds, under whom many of them had served in the Creek war of 1813-14. When the commissioners met at Doake's Station, although there was a good deal of discussion, the question was settled upon such terms and conditions as were acceptable to both parties. Whatever objections might have been raised, were easily removed—the sale was *voluntary* on the part of the Indians, the terms proposed being such as they might accept without a sacrifice of their honor. In addition to a large amount of money, they agreed to cede an equivalent in lands west of Arkansas, with a guarantee that the newly acquired territory should be held in perpetuity, unless, in the meantime, they should be required for other purposes, and then—and then—well, it is useless to speculate on a future, which to-day threatens to send them farther West, if such a place can be found, unless they compromise by admitting into their midst an element which, in a few years, will despoil them of their lands and reduce them to a vassalage more degrading than abject slavery. In making this sale, a reservation of fifty-four sections was made, to which the government added fifty-four sections, the whole to be held and sold by the United States for the establishment of schools among the Chactas.

As late as the early part of the present century the subject of education had not attracted the attention of the Chactas, though some of the mixed bloods had been taught to read and write, and at a later day a few of those had been sent to distant schools and on returning to the nation showed to the people the value of that knowledge which elevated the white man in the scale of intelligence so far above the Indian. One of the young men named Ross studied law and apparently had a bright and useful future before him, as he was young and possessed a high order of talents, was highly esteemed by the whites, and was acquiring a fair reputation at the bar, but suddenly and without any known cause he committed suicide near the residence of my father. After him no Chacta ever became a professional man in Mississippi—though there were some preachers of eminence, among whom the most noted was Israel Folsom, who was a missionary among his people for thirty-five years and, as I have been told, had a great command of language, in fact, was a man of a high order of eloquence. The time, however, had arrived when this lethargy had to give way to other demands. The heads of the nation had frequently visited Washington, where they came in contact with the first men of the country and could not but realize the disadvantages under which they labored for want of that general information so necessary in discussing questions which affected the relations between the two races so broadly sundered by the habits, manners and customs of each. At this date the spirit of enquiry was actively employed in devising the ways and

means of bettering their condition. To-day they have in the Indian Territory six well equipped schools, for which the nation pays the expenses of four, while two of them are academies—one for each sex, where tuition is free, but the pupils have to pay board. The result is that they have lawyers, doctors and preachers who, being familiar with both languages, can transact business and teach the learned as well as the ignorant. Pushmataha, one of the chiefs of the nation, was a warm advocate for the establishment of public schools for the education of the Chactas, but did not live to witness the success which crowned the reservation made at *Doak's Station*.

The great chief was born in 1764 on the east bank of the Oka Nakshobi, or as corrupted by the white man, Oka Noxubee—*stinking water*—two miles above Macon, on what was known in after years as the Howard plantation. Near the place of his birth there stood, and may still stand at this day, a large black oak, which marked the birth place of their great chief. The little log cabin in which he first saw the light has long since disappeared, but traditional location has been faithfully preserved by a few old pioneers of Noxubee County yet lingering amidst the scenes of their youth. He was at an early age elected one of their chiefs, and tradition says that he made a number of raids in the Osage country, but these traditions, which may be found in McKinley and Hall, rest upon such a slender foundation that they are too feeble to sustain the truth of history. I shall, therefore, discard them all and only relate one which was kindly furnished me by H. S. Halbert, of Mississippi, who heard it from a son of one of those who was in the expedition. Mr. Halbert has devoted much time in the last fifteen years to collecting Chacta traditions. Some years prior to the Creek war of 1813, accompanied by thirty of his chosen warriors, equally ambitious with the chief to gain glory, booty and scalps, Pushmataha crossed the Mississippi, hoping to surprise some of his old enemies, the Osages, or Washashi, as they were called in the Chacta language, and though the risk was imminent the honor would be enhanced—they could then return victors and exhibit to their friends the numerous scalps of their enemies. In this enterprise they would probably have been successful but for an untoward accident. They had approached within a few miles of the village they designed to capture when they discovered an Osage warrior in a tree gathering grapes and throwing them down to a woman—probably his wife—who picked them up and put them in a basket. As he wished to take the Osage alive two parties were detailed to surround the tree and cut off his retreat. In this they might have been successful had not one of the party trod on a dry stick, which, cracking under his weight, gave the alarm to the Osage, who immediately began to descend the tree, but in his haste he fell and was immediately dispatched and

scalped by his enemies. As soon as the first alarm was given the woman fled with the fleetness of a hunted deer and though pursued by several warriors made her escape. Knowing that the woman would give the alarm, the chief and his associates, like prudent men, retired with their single trophy, as they were not strong enough to meet the combined forces of the Osages. The expedition being abandoned they hastily retraced their steps and returned to the nation, having a single scalp, taken from a defenceless warrior, while a woman had baffled the pursuit of their fleetest runners. The glory of this achievement will scarcely place him in the line of heroes, though fame has been won by acts less daring and in situations of less peril. I suppose, however, according to the fashion of the times, which has been prevalent in our day, the courage of the little band was duly extolled by the commander, while it was laughed at by those who had seen service and aided in winning victories.

The Chactas and Osages had a war of a predatory character, which is said to have extended over twenty-seven years—small parties of each being engaged in these raids. The last of these was made by the Washash or Osages, in 1815, when they penetrated the Chacta Nation, as far as the present Winston county, killing people and burning houses, besides stealing horses. This was the end of their triumph. A large force of *mounted* warriors, chiefly from Pinnashook village, was hastily enrolled, pursued and overtook the invaders, when a running fight of several days occurred, in which several warriors on both sides were killed and wounded. Finally the Washash were forced to retreat to the west side of the Mississippi, after which they never made another attempt to invade the Chacta Nation. Red Fox, an old Indian warrior, who died about forty years ago, was wounded in this running fight. From him the story of the long contest between the Chactas and Osages was obtained. Pinnashook village stood about one and a half miles east of the present village of Battleground, in Chacta territory, and was called *Washash*.

The Chactas had a peculiar method of disposing of their dead, a description of which I have in the language of my correspondent, at Atoka, "this would again still her nation, or 'pointed out.' In reply to my inquiry as to the early mode of burial, she says that the following description was taken from the manuscript of her grandfather, Nedame. The account was written in the early part of the present century. "When any one dies a scaffold is made in the yard, or in the house, just high enough to be safe from the dogs. On the top of this the dead body was laid, on his or her side, then a blanket or bear skin was put over the body, and there it remained until long dead. Then the 'bone picker' was taken out and picked the flesh out of the bones, and put the bones in a box. The head was skinned and put in the box and the box was put away in the bone house, a house set apart to

receive them, not far from the edge of the town. Here would be a large collection of the people at the time the box was placed away. The bone-pickers had some kind of ceremonies, but did not see about them. Twice a year, spring and fall, the people would assemble and have a great gathering, to weep over the boxes of the dead. The two families of the dead, on the same day, would meet; one family would weep and mourn and the other dance, and on the second day the other would weep and mourn, and the other would dance; and so all wept and mourned for their dead. Then the bones or boxes of the dead were brought out, and wept and mourned over, and then they were replaced in the same house. The bone-pickers would receive their presents for their work done, and that closed the scene."

She adds: "I suppose that was the funeral service. The Chactas here have a way of appointing a day for the funeral services of their dead. They choose the minister and inform him about the time; then they have the services at or near the camp ground, where the graves of their dead are commonly made. They usually bury near the meeting place. They prepare enough of food for all who may come; and after the preaching of the funeral sermon, all who wish and are in sympathy with the family, repair to the grave to weep; this is done partly for the benefit of those who could not be at the burial. Others prefer the white man's way, to have the whole services gone through at the time of the burial."

A few words about schools will not be out of place. There are four national schools, of which one is for negroes, and costs the nation \$10,000, and two orphan schools, one for each sex, which costs the nation \$15,000, and accommodate one hundred pupils each. There are two other schools, one for each sex, which cost our nation \$20,000. There is a Baptist academy where the pupils pay board, but tuition is free. As every child is entitled to tuition from neighborhood schools, we receive them. We have likewise a mixed school, and I venture to say, that we are doing as much or more good than any of the large schools. We do the best we can and the nation can not interfere. The Home Mission Board helps us to help ourselves. We have had this year 135 students, some have gone home to work, which leave ninety-nine.

I believe it was common among some of the western Indians to flatten the forehead of their infants. I do not know that this custom prevailed to any extent among the Chactas; I never saw but one example of the kind. A basket was made for this purpose, in which the infant was securely fastened, and then a light bag of sand was placed on the forehead, where it remained, being removed at intervals, until the desired shape had been obtained. This same basket was used for another purpose much more

pleasant to contemplate, a *pushkush*—baby—was placed in the basket, which had a handle at the end through which a rope was passed; then the rope was thrown over the limb of a tree, where it remained during the day, except when it required a fresh supply of nutriment. I think this was a common practice among the Chactas. There was a noted peculiarity among Indian babies, I have no recollection of ever hearing one cry; they may have indulged in an occasional squall when I was not present.

When the war of 1813 occurred between the United States and the Creek Indians, through the influence of Geo. S. Gains, who had been a factor in the nation since 1802, and who, by his upright conduct and fair dealings, had won their confidence, Pushmataha was induced to organize a battalion of four companies, numbering 135 men, with which he joined General Claiborne, and shared in the glory of the campaign to the Holy Ground, where he and his warriors distinguished themselves and were eulogized by the commander; in this campaign he was a lieutenant colonel. Again, in 1814, he joined General Jackson, and was with him at Pensacola. He now held from the United States a commission of colonel, though he only commanded fifty-three warriors.—For this information I am indebted to the Department at Washington. When old Hickory was informed that the British intended to make an attack on New Orleans, he lost no time in concentrating all his available forces at that point; but before leaving Mobile he detailed Major Blue, with a small command, to which the Chacta contingent was added, to act against the Creeks, and bring the war with that nation to a close with as little delay as possible. Here the Indians were of valuable service, as they knew all the haunts of the Creeks, and could follow them unerringly to their secret retreats in the swamp. In a brief space of time their work was accomplished. Those that were not killed, or could not make their escape, sued for peace, on any terms the victors might impose. Thus, to Major Blue and Colonel Pushmataha was due the honor of having terminated the Creek war."

After the sale of their lands at Doak's Station in 1820 peace reigned among the Chactas, and they were gradually adopting some useful trade taught them by their white neighbors, but they became a little restive, owing to the delay of the government to comply with the conditions of the sale, a delay which naturally provoked discussion, and there were many who did not hesitate to charge their debtor with acting in bad faith. There grew out of this sale a claim in favor of the Chactas, known as the "Net-proceeds," the character of which I have been unable to discover, though I have made diligent enquiry, both in Mississippi and in the Indian Territory. That it was a just claim is evidenced by the fact that it was paid in 1888, when it amounted to \$1,000,000.

Why a delay of sixty-eight years should have happened is a mystery that the Secretary of the Treasury would find it difficult to solve, as there was such a plethora in the treasury during this period that the surplus was distributed among the states. It was for the purpose of obtaining a settlement of this claim that, in 1824, nearly all the chiefs visited Washington, where they had the pleasure of dining with the president and other distinguished characters, besides taking Lafayette by the hand, then on a visit to this country. But they got no money, though they were detained at the capital several months by vague and deceptive promises, during which the great chief and three others died. Big dinners and champagne did not agree with the habits of men who, in the nation lived on shukhota, tomfulla, peas and potatoes, intermingled with some wild game, and copious potations of bad whisky and West India rum, when they could be had. It finally told on Pushmataha, who, on the 23d of December, fell on the street at 9 A. M. and died at midnight. During his stay in the city, McKinley and Hall have made several beautiful speeches for the chief, but I forbear quoting them, as they appear too highly colored—though the chief was an orator, and had perfect command of the Chacta language. Chief Folsom, who attended the delegation in the two-fold character of interpreter and treasurer, makes no reference to any speeches made by either of the chiefs, nor to the conversations said to have occurred while on his deathbed, though he was with the chief from the time he fell till he died. It is not probable that much poetry formed the staple of conversation between the hours of 9 A. M. and midnight. "Birds and flowers" did not occupy his mind, nor do I suppose it dwelt on the solemn sound which follows the fall of a big oak tree, on a still day, in the midst of a vast forest. These speeches bear such a striking resemblance to the alleged conversations while on his deathbed, that I shall pass them by as of no historic value.

THE CATAWBA INDIANS.

BY W. B. ARDREY.

History says and tradition confirms it that the Catawba Indians came from the head waters of the Catawba (Muddy) River several centuries ago. It is related that this part of York County, where Fort Mill now rests, was settled by a tribe called the Sugaw Indians. When the Catawbas put in their appearance it is said that the Sugaws were annihilated by them. Hagler was the last king of the Catawbas, and the only authentic history the writer has seen of these warriors is dated from his reign. It has been stated by some writers that they were the aborigines of York County. As late as the year 1760 they numbered three thousand souls. They had the bravery that is peculiar to the red man, but they were ever kindly disposed to the whites and their relations were always peaceful. Their one especial redeeming trait and characteristic was their honesty.

It was about this time that the first white man who ever settled in this section put in his appearance. Thos. Spratt obtained a lease from King Hagler for a tract of land five miles square to extend for a period of ninety-nine years. Until his coming, no pale face would dare to attempt to settle among them, but he was most exemplary in character. He was very courageous and was just and upright in every particular. He was thoroughly acquainted with the Indians and soon won their confidence, and with it acquired a wonderful influence over them. In illustration of this an anecdote is told, one with which every child in this locality is acquainted. Spratt planted his residence about two miles from what is known as Nation Ford, on the Catawba River and one mile from the center of the present site of Fort Mill. Some years after he had cast his lot among this tribe a French dancing master happened along. He had a violin with him and to obtain the good wishes of the savages he stopped and played a few lively airs on his instrument for their benefit. The Indians were delighted. In fact one of them was so pleased that he determined to possess himself with the music-making instrument, and after the traveler had proceeded on his way this warrior ran ahead in pursuit and after overtaking him shot the Frenchman and captured the coveted prize. When Spratt heard of the murder he determined to avenge the deed, and consequently, accompanied by a few white friends named White and Ervin, and probably others who had lately settled here, went to King Hagler to obtain justice. The king was out on a hunt with his warriors when the whites went in search of

him, but at last they came up with him on a high hill about two miles north of Fort Mill and near what is called Hagler's branch. After the leader of the whites had put the usual question, "Are we not all friends and brothers," and the king answered in the affirmative, the object of the visit was stated and the king proudly declared that justice would be done. He sought the highest pointed of the hills and, after examining his rifle, blew a loud blast on his hunting horn. For several moments he kept his keen eyes fixed upon every approach, and soon a large red skin was espied approaching with a huge buck upon his back. As soon as he was observed the chief raised his rifle and taking long and careful aim fired. The victim of the monarch's justice fell dead. Hagler then turned and extended his hand to each of the whites and of course they had to be contented with his savage method of administering the law.

Leases were then being granted to other white settlers through the instrumentality of public spirited Thos. Spratt, and gradually the red men began to be crowded out of their territory. About this time Mr. Spratt donated a mill site on Steel Creek about two miles east of Fort Mill to a man named Garrison, and from this mill and an old fort which was erected near the Spratt homestead the name "Fort Mill" was afterwards derived. The remains of both of these can be seen to this day.

It has been over half a century since the Catawba tribe acceded to the proposition of the state of South Carolina to sell them their lands. By the use of whisky and other means the whites were fast swindling them out of their territory and to avoid trouble the state proposed the trade which was consummated.* A large number of the tribe went to North Carolina then to join the Cherokees, but this state refused to harbor them and they returned to the land of their forefathers in a wretched state. At one time, shortly after the revolution, it is said small-pox broke out among them and destroyed about one-half of their number. The Indian doctors had only one treatment of all diseases. This was called a corn-sweat and was administered by boiling ears of corn and packing them closely around the body while still hot. The patient was then thrown into the river and was taken out dead about as often as otherwise.

Shortly after the revolution a shrewd white man induced several of the warriors to accompany him on an exhibition tour through England. To the people of that country a "live injun" was something heard of, but never seen. Decked in their paint and feathers they carried things by storm by exhibiting their skill with the rifle and bow and arrow and imitating the war dance. However, they came to grief at last though, for the sharp white man to whom they had entrusted themselves betrayed them, and, after pocketing the treasury balance, skipped

*The Catawbas sold their lands to the state in 1781 for \$60,000

and left the warriors alone in a foreign land. Only one of the warriors survived the trip and reached home again. His name was Peter Harris, and an old tombstone now marks his resting place in the private cemetery of the Spratt family, which is situated only a few yards from the corporate limits of Fort Mill.

Thos. Spratt was always called "Kanawha" (pronounced "Kanoi") by the Indians from the fact that he went and fought with them against a tribe on the Kanawha River in Virginia. The fifth generation descending from "Kanawha" Spratt is represented in Fort Mill to-day. A great-grandson now occupies the old Spratt homestead, which was erected here in 1812 by a son of "Kanawha." It is a very fine old residence of ancient architecture.

Hagler, the last chief of the Catawbas, died childless. With him his rifle, horn, pipe, tobacco, etc., were buried, but his grave was afterwards rifled by gamblers who made the guards drunk who were appointed to watch over his grave for a moon (four weeks). Hagler left a sister who married General Newriver. A little girl was born to them and both parents died soon afterwards. She was taken charge of by Thos. Spratt and reared as one of his own household. She never became queen of her tribe, but lived to a ripe old age. However, she rejoined her tribe and was given all the respect due a queen.

The present condition of the Catawbas is wretched indeed, and no one can visit the "Nation" without feeling the deepest sympathy for them. Only about seventy of the braves are left, and of these I think there are only three full-breeds, and they haven't many years before them. Their settlement is situated seven miles from Fort Mill in an east of south direction, on the banks of the river which bears their name. They live in small cabins almost hid among the high hills and deep valleys. They are surrounded by deep forests, but nothing but small game abounds, and very little of this. Everything around them seems dead and has a very gloomy appearance. The men are still too proud to work much. They cultivate small farms and corn is their principal product. The women still make plain and fancy black clay pipes and other pottery, which they exchange for other merchandise at the neighboring towns. Very few people ever visit them. The last time I was there they showed me a baby made out of clay and which adorned one of their mantels. They seemed to think that their greatest attraction, and it was of very good workmanship. They all speak good English. Missionaries visited them years ago, but it is said that not one of them has ever embraced the Christian religion, and I think it is the same to this day. Billy George is the oldest and most influential member of the tribe, and he lives principally by making and selling bows and arrows.

About two years ago several of the men started giving exhibitions, but I think they gave up their scheme after their initial

performance at this place. The features of the exhibition were the war whoop and dance, bow and arrow practice, etc.

There are about twelve hundred people in Fort Mill, about one-half of whom depend upon the two cotton mills for their support. Relics of the days when this section was the hunting grounds of the red men are frequently found. Arrowheads are scattered in profusion and very often an Indian grave is dug into and buttons, beads and probably a tomahawk unearthed.



THE CUISINE AND EVOLUTION.

By R. G. ABBOTT.

Two of the principal scientific societies of Brussels have, during the past year, given considerable time to the discussion of a question which recalls the origin of civilization. This topic relates to the influence exercised upon the environment and upon man himself, by the transformation of the human alimentation through the action of *fire*.

The Belgian society of Geology, Paleontology and Hydrology were investigating the evolution of the quaternary fauna and the causes for the extinction of certain species; natural causes in some cases, artificial causes in others. The artificial cause is the action of man; an action of sufficient power and decisiveness to warrant his consideration from the point of view of a "*positive geological force*."

Before the quaternary epoch, (the first in which the presence of man is certain,) the extinction of species is manifestly due to the action of natural forces. Succeeding the quaternary epoch a new force appeared in the form of man, who is termed an artificial force by way of distinction to the natural forces; for the reason that art intervenes, a human procedure, the action of man transforming and dominating nature.

Where did man receive the power to accomplish this transformation and subjection? By the utilization of fire. A communication to the Belgian Society of Geology, by M. Edouard Dupont, says: "Man is an anthropomorphist, who has acquired an artificial regimen by the utilization of fire; and by such utilization has placed himself above the natural laws of animals as to his food and his habitat."

All the creatures of the animal reign were nourished exclusively upon natural aliments, undergoing no change of composition or preparation. Man alone forms an exception to this rule. He transforms the greater part of his food by the process of cooking; he mingles and combines various substances to form one dish;

he composes new foods and adds to them divers condiments. He alone prepares his food with fire; he only possesses a knowledge of the culinary art. The point of departure in this great modification of the manner of taking nourishment was the utilization of fire to heat the aliment. From a primitive frugivorous condition man has become herbivorous and carnivorous; but he prepares his vegetables and meats with heat and does not eat them in the uncooked state as did the herbivora and carnivora of the animal reign. Almost the only aliment which he eats without artificial addition or preparation is fruit; an experimental proof that his natural regimen was frugivorous, as is further indicated by his anatomical structure. The actual regimen of man is acquired by him. It is artificial, the product of his art. Now, this acquisition has resulted in vast consequences upon his destiny. The employment of fire having permitted him to add to his natural alimentation that of the herbivora and carnivora, (which had previously been interdicted by his digestive apparatus,) he has thereby been enabled to find his nourishment in every locality, and his place of abode is no longer limited to those regions which furnish fresh fruits the entire year. He thus acquired the gift of ubiquity; he became cosmopolitan.

The utilization of fire is then the precursory fact of the prodigious power that man has acquired over the natural forces. This single circumstance procured him the ability to transform his diet, and the possibility of wandering over the globe, inasmuch as it removed from him the necessity of nourishing himself in certain favorable localities and opened to him a career of travel.

The correlation of cause and effect between the transformation of the natural regimen into an artificial regimen, and the faculty of ubiquity is of itself so evident that the relation of the two phenomena suffices to establish their dependence upon each other. But it is observed at the same time that a correlation of coincidence seems to appear between these two phenomena and the development of the intellectual faculties which dominate nature. One may then pertinently ask if it is not in the new regimen that the cause of increased cerebral activity must be discovered, from which has resulted the human intellectual superiority; the power which has been given to its action upon nature the value of a "positive geological force."

NOTES ON THE KOOTENAY INDIANS, THEIR HISTORY, ETC.

BY A. F. CHAMBERLAIN.

II.—LINGUISTIC DATA.

In the accounts of the travelers in the first half of this century there are various stray notes relating to the Kootenay language. Ross Cox (1831) states: "They are a very peculiar tribe. Their language bears no affinity whatever to that of any of the western nations. It is infinitely softer and more free from those unpronounceable gutturals so common among the lower tribes," (II., p. 153). Rev. Samuel Parker (1840) says: "They speak a language distinct from all the tribes about them, open and sonorous and free from gutturals, which are common in the language of the surrounding tribes" (p. 307). The Prince of Neu Wied (Lloyd's Translation, 1843) remarks: "Their language is extremely difficult to learn" (p. 509). The statement of Ross Cox and Parker that the Kootenay language is free from gutturals is remarkable when one considers the real nature of that tongue. Parker probably copied from the first without attempting to examine into or verify the assertion.

The earliest printed vocabulary seems to be that—"einige Worte der Kutānā oder Kutnehā Sprache"—contained in pp. 511-514 of Vol. II. of Alexander Philipp, Prinz von Wied-Neuwied's "Reise in das innere Nord-America in den Jahren 1832 bis 1834", Coblenz, 1839 [-1841], 2 vols. 4to. This vocabulary (of twenty-three words) is reprinted in the subsequent French translation (3 vols., Paris, 1840 [-1843], 8o), at Vol. III., pp. 383-388, but in Lloyd's English version (London, 1843,) we are informed that the translator thought the general public would not be interested in the vocabularies and so omitted them altogether.

Horatio Hale, in "Vol. VII. U. S. Exploring Expedition (Philadelphia, 1846)," gives a list of 144 words "from a Cree Indian, who knew Kootenay." This is immeasurably the most accurate of the early vocabularies, as the writer of these notes can testify from actual inquiry and experience. Mr. Hale's well trained ear was quick to catch many of the most difficult sounds in the language. Until the appearance of the vocabulary of Dr. F. Boas, in 1889, Mr. Hale's list seems to have been the one most referred to by the few who noticed the language in their philological treatises.

In the "Proceedings of the Philological Society (London, England)," Vol. II, 1850, pp. 191-206, Mr. T. Howse published "Vocabularies of certain North American Languages," in which

the Kútani is included. This ill-spelt, utterly unphonetic list of words and phrases is reprinted by Dr. Latham in his "Elements of Comparative Philology (London, 1862)," pp. 395-396, accompanied by the following astonishing remark: "The Kútani vocabulary of Mr. Hale was obtained from a Cree Indian and is not to be depended on. This being the case, it is fortunate that it is not the only specimen of the language. There is an earlier one of Mr. Howse's, published in the Transactions of the Philological Society. It is as follows; being given in full as representing all that is known of the language." Dr. Latham, besides doing this great injustice to Mr. Hale, seems to have been ignorant of the existence of De Smet's translation of the Lord's Prayer, which had appeared many years previously. Misled by him, others have, perhaps, made similar blunders. In his "Opuscula (London, 1860)," Dr. Latham also prints a list of Kootenay words from Howse.

In "New Indian Sketches" (N. Y., 1863), by Father J. de Smet, the veteran missionary to the Oregon, is printed (pp. 118-125) a vocabulary of some 220 words, entitled, "A Vocabulary of the Skalzî, or Kootenay Tribe, inhabitants of the Rocky Mountains, on the head waters of the Clark and MacGillivray Rivers. Taken during my trip of 1859." This is, on the whole, better than Howse's, but DeSmet's ear, too, failed to catch the gutturals properly, and especially the difficult *ll*, which he renders *lg*, Howse rendering the same by *l*, *ll*, *thl*.

Morgan, in his "Systems of Consanguinity and Affinity of the Human Family (Smith, Contrib. to Knowl, Vol. XVII, Washington, 1871)," gives some fifty words under this head from the Kootenay, "obtained from Geo. Gibbs in July, 1860 (pp. 293-302).

In the "Zeitschrift für Ethnologie," Bd. VI, 1878, s. 449-459, Wilhelm Herzog, endeavoring to prove a relationship between the Yuma linguistic stock and the Eskimo and Aleutian, gives, in comparison, a few words from Kootenay, taken from Hale and Howse.

In 1882, Friedrich Muller, in his great work, "Grundsiz der Sprach-wissenschaft" (II. Bd., I. Abt., Wien., 1882, s. 429-430), reprints the Kootenay numerals 1, 10, 11, 12, 20, 30, 100, apparently from Hale.

The next printed vocabularies are those of Drs. Tolmie and Dawson, in their "Comparative Vocabularies of the Indian Tribes of British Columbia" (Geol. and Nat. Hist. Survey of Canada. Montreal, 1884). The one (pp. 79B-87B) consists of 136 words of the "Upper Kootenuha Tribe;" the other some 370 words, according to the schedule of Major Powell's "Introduction to the Study of Indian Languages," obtained from "Joe, a Kootenay Indian, at Joseph's Prairie, 1883." Both vocabularies were recorded by Dr. G. M. Dawson. In the summer of 1888, Dr. Franz Boas visited the Kootenay region, under the auspices of the British Association for the Advancement of

Science, and his report, presented to the meeting held in 1889, (Fifth Report on the Northwestern Tribes of Canada, London, 1889), contains (pp. 93-97) valuable notes on the phonetics, grammar and word-formation of the language. In a subsequent report (Sixth Report on the Northwestern Tribes of Canada, London, 1890), Dr. Boas, in a "Comparative Vocabulary of eighteen languages spoken in British Columbia (pp. 140-163)," includes the Upper Kootenay. In the possession of Dr. Boas are a Kootenay-English Vocabulary of some 540 words, and an English-Kootenay Vocabulary of some 350 words.

Rev. E. F. Wilson published in "Our Forest Children," Vol. III, 1890, pp. 164-168, an article on the Kootenay Indians, of which pp. 167-8 are taken up with a few grammatical notes and a vocabulary of some 100 words and phrases. The grammatical items were seemingly obtained from Dr. F. Boas, the vocabulary from Mr. Michael Philipps, the agent of the Dominion Government amongst the Kootenays.

The writer of these notes spent the summer of 1891 amongst these Indians, obtaining a considerable amount of linguistic data. Part of the results of his investigations have been published in the Report to the British Association (Eighth Report on the Northwestern Tribes of Canada, London, 1892), where (pp. 45-70) a somewhat extended sketch of the chief features of the Kootenay language is given.

At pages 17-19 of the same report the texts of seven songs are given. With the exception of the phrases accompanying some of the vocabularies, the above, together with the Pater Noster of De Smet, constitutes the whole literature in the Kootenay language that has yet been published. De Smet's version of the Lord's Prayer, entitled "Our Father in Flatbow and Kootenay Language," is contained on page 409 of his "Oregon Mission and Travels over the Rocky Mountains in 1845-46 (N. Y., 1847)." This has been reprinted as follows: In De Smet's "Missions de l'Orégon, etc. (Gand, 1848), p. 356;" J. G. Shea's "History of the Catholic Missions among the Indian Tribes of the United States (N. Y., 1855), p. 473;" Marietti's "Oratio Dominica in CCL. Linguas versa, etc. (Romae, 1870), p. 305;" Bancroft's "Native Races of the Pacific States of North America" (N. Y., 1874-1876), Vol III, p. 620.

The version of De Smet is somewhat crude and in some places in the printed text hopelessly mixed in the interlinear translation. The writer of these notes is now engaged upon the study of this rendition, having in his possession a manuscript version by Father Coccolo, of the Kootenay Mission, obtained in 1891, which differs remarkably in the wording from that of De Smet. These are the only known translations of the Lord's prayer into this obscure western language.

In the possession of the writer are also the texts of over fifty legends and myths recorded in phonetic transcription by him

from the dictation of the Indians themselves, besides an extensive word-list. The compilation of a Kootenay-English and English-Kootenay dictionary has been begun; the first sketch of the latter running about 3,000 words. From Mr. Pilling's "Proof Sheets of a Bibliography of the Languages of the North American Indians (Washington, 1885)," the following manuscript vocabularies are known to be in existence:

1. MacDonald, Angus. Vocabulary of the Kootenay. Ms. 6ll. fol., 200 words in Library of the Bureau of Ethnology, Washington, D. C. Date (?).

2. Powell, J. W. (Supt. Indian affairs, B. C.). Vocabulary of the Kootenay. Ms. 2ll. fol., 185 words. In Library of the Bureau of Ethnology. Date (?).

3. Tolmie, Dr. W. F. Vocabulary of the Cootonais or Cuttoonasha Language. Ms. ll. fol. In Library of the Bureau of Ethnology. Date (?).

4. *Vocabulaire des Kootenays Counarrha ou Skalza Recueilli par ll. r. p. * * * Missionnaire Oblat de Maric Im. an milieu de trop d'occupations pour qu'il soit satisfaisant.* "Manuscript on printed 6 form, dated Le 15, Janvier 1883, 1l. fol. In the Library of M. Alph. Pinart, San Francisco, Cal."

5. (Vocabularies of some of the Indian Tribes of Northwest America.) Ms. 2 vols., 82 pp. folio. (Presented to Peter S. Du Ponceau, Esq., with J. K. Townshend's respects.) Fort Vancouver, Columbia River, September, 1835. Among them is a list of "Kootenai near the sources of the Columbia, 206 words."

6. In the possession of the writer of these notes is: Michael Phillips (Kootenay Vocabulary). Ms. 2 pp. foolscap, written down in July, 1891, at Ft. Steele, B. C. Contains about forty words and phrases.

This sketch shows the state of our knowledge regarding this interesting American language. The printed literature is very small, and the amount in manuscripts also small when we consider the large number of manuscript in some other of the American aboriginal tongues. Up to 1889, it may be fairly said, the scientific world knew nothing of the grammatical structure of this linguistic family, and to-day it knows very little. The study of the Kootenay language promises to add not a little to the store-houses of comparative philology.

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TRANSFORMATION MYTHS.

BY STEPHEN D. PEET.

It was a strange conception among nearly all of the North American tribes that there were no lines which could keep apart the natural and the supernatural, the human and the divine, for all things were blended together in a shadowy way, and were easily transformed, as if seen in a dream. As in looking into the fog which sweeps into the shore, the divisions between the sky and sea and solid land are dimly blended and obscure, and even those objects which have a definite shape seem to be monstrous in their size, and fill one with awe because of their strange appearance, so to the eye of superstition there was no separation between the different realms of creation, no distance between the divine and human beings, but all were mingled together in one common realm, the superstition of the people doing away with the distinction between the substance and shadow, form and spirit, the feeling of awe and the sense of worship being aroused by everything that was strange or that excited their wonder. The divinities could assume the shape of animals or birds and nondescript creatures, and appear in any of the elements—the earth, air and water. They were all equivalent to the nature powers, and embodied in their strange forms the different forces of the sky. They could assume the human form and make that the highest manifestation of their presence. They were always supernatural, but made the natural objects subject to their power and so made their presence known. Stars came to earth and dwelt among men, men and women were changed to stars and dwelt in the skies; serpents came out of the water and married women; women changed to serpents and followed their lovers into the water; birds swept down the mountains and across the lakes, and changed to feathered serpents; serpents were carried up to the clouds and shot as lightning from the skies; great monsters appeared upon the earth and devoured men for food, but the monsters became stones and their bones were seen upon the shore; forests changed to shadows and through them invisible spirits made their way. Such was the power of transformation that even the spirit world became as substantial as the material, the material itself became ethereal, which was constantly suggesting the presence of the divinities. The mythology of the aborigines was full of these strange stories of transformation, and owes its beauty in part to the fact that it had to do with the realms of the spirit. There was all the play of fancy which is possible to poetry, and all the charm that is contained in the fairy

stories, but the thought was controlled by the spirit of devotion and the myths were of a dreamy and shadowy character, and have a peculiar charm which is found no where else in literature.

Now it is to this transformation element in the myths and symbols that we are to call attention, for this is the clue by which we are to interpret the various figures which are brought before us, and especially those which represent the human form in combination with the various parts of birds and beasts and other creatures. These figures may well be studied, for they contain within themselves many of the myths which were prevalent in prehistoric times, and so may be regarded as "myth-bearers" to the historic days. They are to be compared with the masked figures which are recognized in the various dances, for they probably represent the same conceptions, namely, that

human beings could be easily changed into animals and birds and that the totems of the clans could thus be brought near, and the divinities appeased and the prayers be granted, the dramatization of the prayers being perhaps embodied in the figures as well as in the dances, the relics thus serving the same purpose as the "sand-paintings" and the carved columns, the transformation element being contained in all alike.



Fig. 1.—Serpent and Human Face.

We have spoken of a few of these, but have confined ourselves to the winged figures and to the human images which were inscribed upon copper plates and shell gorgets taken from the mounds, but there are many other specimens scattered over the different parts of the continent, and many means of representing them. These may all be called "mythologic creatures," for they embody the myths of the prehistoric races, but they need to be studied with this thought in mind, for they are so varied and contain so many strange conceptions that were it not for the transformation element we should be utterly baffled in our effort to interpret their meaning or to understand their object. We shall therefore call attention to the transformation cult as it is presented in the various localities, and to the different figures in which it is manifested throughout the land. The following may be taken as a

list of the objects which have perpetuated the cult and which have been chosen as the means of representing it to the eye: (1) Figures seen in the rock inscriptions; (2) effigy mounds; (3) carved posts; (4) masks and helmets used in dances; (5) painted figures and personal decorations and the attitude of dancers; (6) the images which were used in religious ceremonials; (7) the figures inscribed upon the shell or copper plates, stone tablets, carved pps and pottery vessels found in the mounds; (8) the figures which were painted or carved upon the mounds; (9) the figures which were wrought in stucco and placed in the shrines; (10) carved stone figures, made to ornament the façades of the palaces; (11) statues in stone and wood, made to represent the sun divinities; (12) the figures which are portrayed by the codices and ancient calendars of the civilized tribes. It will be noticed that the figures are numerous and widely scattered. Such is the variety and distribution of these various figures that we are constantly reminded of the great store of mythology which was formerly prevalent, but which is passing away. These "mythologic creatures" often baffle interpretation and are very mysterious, and the symbols which contain them are often difficult to understand. Yet the more we study the mythologies of the people and compare these with the figures which come before the eye, the better are we able to identify the myths in the symbols and the more meaning do we find—that which was a sealed book becomes eloquent with a hidden sense, and beauties which were unobserved are brought before us to awaken our admiration and surprise.* The best aid, however, to the interpretation of the mythologic creatures is the one which is furnished by the so-called "transformation myths." We shall therefore refer to these, taking the pictographs and the myths as the double key, or rather as the lock and key, by which we may open the door to the inner chamber of the various religious systems.

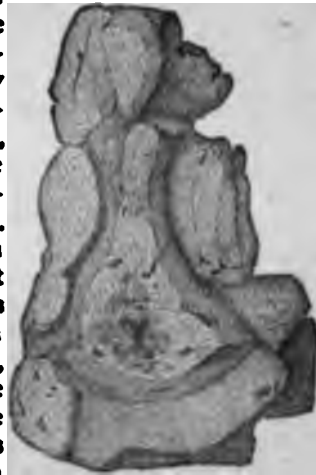


Fig. 2.—Pottery Idol.

1. Let us consider the transformation of the creator into animals. This was a common superstition among the partially civilized.

*One of the most important aids in this work is the volume which has recently been published by the Ethnological Bureau and which describes the Picture Writing of the American Indians (see Tenth Annual Report of Bureau of Ethnology). The author, Col. Garrick Mallery, makes no attempt to identify any of the mythologic divinities in these figures and briefly refers to the symbols contained in them, yet from the study of the rude drawings or engravings in the volume we may follow on from one figure to another and trace the general resemblance between them and then apply the myths already known until we have made out a tolerably satisfactory system.

tribes. The idea of the Creator with them was that he was a "transformer" or "changer." He was called "the master of life," "the holder of the heavens," "the old man of the ancients," "the god of beasts and men," and was regarded as a person having supernatural power, but was pictured as an animal or bird, though endowed with human attributes. The animal varied according to the locality. Among the eastern tribes it was the rabbit; among the tribes on the Pacific coast it was the coyote; among the tribes of the interior, the Moquis, it was the mountain lion or bear; among the tribes on the gulf coast, the eagle; in the southwest, among the civilized tribes, the tiger and the feather-headed serpent that represented the creator and the culture hero.



Fig. 3.—Idol from the West Indies.

The divinity, however, rarely retained any animal semblance long at a time, for he was constantly changing into other animals and into the human form, and at times was without form except as the elements, such as the lightning, the clouds, the rain obeyed his behests and became the sign of his power. The myths abound with stories of his adventures and he always comes before us as a person having human frailties and resembles Zeus, the chief god of the Greeks, in this respect. He was unlike Zeus, however, in that he could leave his Olympus and his position as the "chief of gods and men" and become an animal and act like other animals—proving to be the "god of beasts as well as men."

The power of transforming himself into any object of nature was also enjoyed by each one of the culture heroes and creators.

To illustrate, let us take the stories of Glooskap, the chief god of the Abenakis. He was able to transform everything at his will. One story is that there were stone giants; these were ravenous cannibals, but they were changed to stones, which can be seen in various places. An army of these giants ran across the river at Niagara, just below the falls, but they were changed to stones, which are still to be seen. The story is told of the great magician, called Kitpoosegenow, that he changed the rocks on the sea coast into canoes and the smaller rocks into paddles and a long splinter, taken from a ledge, into a spear. He changed a man into a pine tree, which became exceedingly tall, so that his head rose above the forest. One who enters a pine forest and listens may hear the tree murmuring all day long. He took the great bird called the "wind-blower,"—"Woochoosen"—who lived far to the north and sits upon a great rock and makes the wind by the moving of its wings, tied both his wings and threw him into a chasm, and there was a dead calm for many weeks. He after-

ward loosened one of his wings and then the winds blew but as if with a broken wing. Glooskap had two dogs which barked at night and filled the forest with their echoes. One was the coyote and the other the loon, the voices of both these creatures being very weird and ghost-like.

The Iroquois also have many myths about their "master of life" or "holder of heaven," who is called Ioskeha and who resembled Glooskap, the Abenaki god. He was pictured as a giant rabbit, but was a great magician and a wonderful "transformer."* He was able to change himself into any animal and could change other animals into new. One of his greatest adventures was that he caught the mischievous sprite Pauppukeewis, who eluded him by jumping from continent to continent, and changed him into a war eagle. He overcame also the "prince of the serpents," and finally himself became the great lawgiver Hiawatha. They hold also that Hiawatha himself was changed. After terminating his mission upon the earth he took his magic canoe and sailed away to the skies. A modern story is that the Atotarho, the enemy of Hiawatha, was changed from a horrid monster into a quiet man by a series of prayers.

There are many stories of the transformation of culture heroes and divinities into serpents. We have elsewhere told the story of Manibozho, the Algonkin divinity, and have given a cut to illustrate it—the cut of the pipe with the tree and serpent and human face.* There is a legend of the transformation of the great creator into a serpent still extant among the Hopis or Moquis. The figure given herewith (see Fig. 1) is that of a water pitcher or cooler from Peru. It represents a serpent and human face combined, and reminds us of the idols which were so common in Guatemala. No tradition is connected with it, and yet it may represent the same superstition.



Fig. 1.—Huata Carving.

The myths of the northwest coast† among the tribes of the Klamaths, Thlinkets, Haidahs, illustrate this superstition very clearly. Among the Klamaths the creator of the world is (Kmukamitch) the "old man of the ancients," the "primeval old man," equivalent to old man above, or the chief in the skies of California. He was as great a deceiver and trickster as Glooskap was. He is the culture hero of his people. He did not make the world by one act, but made the lakes, islands, prairies and mountains, one after the other, and gave a name to each. He created the rocks shaped like a crescent, because the sun

*See Chapter XVI, p. 375.

†See AMERICAN ANTIQUARIAN, Vol. 6, article by Rev. M. Eells. See the Klamath Indians of South-western Oregon, by A. S. Gatschet, page LXXIX.

and moon once lived there. He was changed into a rock, which stands in the Williamson River. He travels in the path of the sun till he reaches the zenith, where he builds a palace and lives there with his daughter. The second in importance is the son of the creator, called Aishish, who has great personal beauty. He is the genius of the morning star, or the rainbow, or the moon, and personifies the atmospheric changes. The moon is his campfire. The moon, seen through the pine trees, is the shadow of the famished Aishish. As the moon brings the months and the seasons, so the quadrupeds and birds which appear after the long winter months are considered his wives, and the flowers of summer vegetation are the beads of his garments. He is called the time measurer, the one that tells the time. As the revolutions of the moon bring the weeks and months, so the measuring of time was ascribed to Aishish, the moon god. The elementary deities are mysterious shadowy beings. The thunders are five brothers, the interior of whose lodge is dark, as the sky obscured by a thunder-storm, but their terrible weapon is the lightning, or thunderbolt. They are five, because the thunder rolls along the mountains in repeated peals.

2. The power of transforming other creatures was sometimes delegated to the medicine men and individuals. Among the wild tribes this power became almost equivalent to magic, and gave great influence to the sorcerers, for the superstition was that they had control over the elements and were in constant communication with the supernatural. We can hardly appreciate this influence unless we take into the account this element of transformation. The barriers between the ghost world and the spirit of man were so broken down that superstition of the people was easily played upon, and they were made to believe that supernatural beings were actually present. Even among the more cultivated tribes there was a dramatization of the nature powers under the semblance of serpents and other figures, the transformation of the elements into animal forms being in the hands of the priests. The sand paintings owed their magic power in curing the sick to this thought. When the colors of the sky were used the sky spirits or sky divinities were actually present. The tracking of the disease into the various parts of the body and using the power of magic in the presence of the sky divinities was sufficient to effect marvelous cures in many cases. The superstition about the soul being able to pass through the mountains and into the rocks and to change its form, to leave the body and to take it up again, was also owing to the "transformation" elements, which so ruled the fancies of the people who dwelt among the mountains.

We may say of all these different kinds of transformation, that they were based upon the thought that the human was the highest form of being, yet the human must become animal in

order to hold communion with the divine. This was the case, especially where totemism prevailed.*

This power of transformation also came upon individuals on special occasions, especially in ceremonial dances. It was a gift enjoyed by a few favored individuals in their childhood. These were looked upon with peculiar awe, as if they were great manitous. An excellent illustration of this may be found in the account which has already been given of the dance seen by Catlin, called the buffalo dance.† This dance preceded the initiation of warriors, and was very suggestive of the transformation element. Examination of the plates will show this. In them it will be seen that the dancers wore the horns and skins of buffalos, but various persons have the forms of bears and antelopes and of buzzards or vultures. These surround the "medicine lodge," while others, with their bodies painted to represent the day and the night, appear among the dancers, all the animal gods and the sky gods being personified, and the myth of the creation and the flood being dramatized in the dance.‡

We have the testimony on this point of Professor Williamson, a son of a missionary among the Dakotas, who often witnessed in his boyhood the dance called the medicine dance. He says: "The celebrated ghost dance, so-called, of the Dakotas of the Pine Ridge agency perpetuates one of its old forms—an old craze under a new name. In my boyhood I often witnessed this dance, usually called the medicine dance, although in particular forms it was called the sun dance. The ghost is only another name for the latter form. The dance I best remember was held in Kaposia, (South St. Paul), about the summer of 1840. Its chief object was the initiation of new members into a secret society, the Waukau order, into which only favored individuals were admitted. Members came from many other bands. They stated that, in some of these dances, the dancers actually became, for the time, by transmigration of souls, the very animals they worshiped, and involuntarily and necessarily they imitated them; they acted not as men, but as these animals, while under the spell. The buffalo and deer ate grass, panthers, wolves, bears and foxes raced and quarreled over the small animals and fishes brought into the enclosure for the purpose, tearing them with their teeth, and eating them raw. At another time some malignant spirit, it was supposed, took possession of the one to

*See Catlin's *Indians of Agassiz's Legends*, *Michigan Indian Legends*, by Rev. S. T. Rand.

†See Catlin's *Indians of Agassiz's Legends*, p. 142.

‡This dance was described as a dance of the Mandans called the bear dance which was in fact a dramatization of a prayer. He says, "Many in the dance wore masks on their faces, and the horns of the bear's head, and all with the motion of their hands closely imitated the movements of the animal, some representing its motion in running, some its position in the water, and some its position when it was sitting upon its hind part and looking back over its shoulder at an enemy." The same was true also of the buffalo dance for in this the dancers wore the head and horns of the buffalo and also imitated the motions of the animal as it was hunted. The women in both these join in a peculiar song to the beat of a drum, and the dancers are consulted and consulted before success can be gained. See Catlin's *Indians of Agassiz's Legends*, p. 142.

be initiated, and he must be exorcised and destroyed, so the dancers, with guns and bows and arrows, were ready to shoot the evil spirit as soon as the signal was given. Whatever the object of worship, whether animal or bird, tree or stone, they were always careful to state that it was not the object itself, but the Waukau, the god that was accustomed to haunt the object, which they worshipped. In some cases the soul of a departed ancestor had entered into the animal, and they worshiped that. They stated that the gods not only haunted the animals, but in an especial manner were present in the pictographs and images which represented the animals and which were used in the dances. They also spoke of particular localities in which they fancied a natural resemblance to some object, either animal or other form, and therefore in an especial sense the seat of the god or spirit of that animal. If the god could dwell in a little pictograph, how much more potently might he be expected to present himself in an immense effigy. In the days of the full sway of superstition not only the members of the Waukau society, but the whole people were under the domination of the leaders, ready to do anything that might be demanded, and all that was necessary was for some leader of the Waukau to command the people to build the effigies and they were sure to be erected."

3. The superstition that the divinity was transformed into various objects in nature, making them "myth-bearers," was common. Many illustrations of this have become familiar to the author from frequent observation of the effigy mounds. It was the custom of the native tribes throughout the Mississippi valley to erect effigies of various animals, especially serpents, upon the cliffs and hill-tops, with the purpose of bringing out the resemblance which had been recognized in the shape of the hill. In this way the hill was transformed into an animal effigy and it was shown that the spirit of the animal actually haunted the hill. This, however, was the same superstition which recognized the shape of the animals in the rocks and rivers and trees, and which affixed a myth to these objects to account for the resemblance. The work of art in the case of the effigies, the rock inscriptions, and the standing stones, was only designed to bring out the thought the more clearly, but the eye of superstition was always ready to recognize the resemblance. Various authors have spoken of this.

Col. Garrick Mallery says: "In many parts of the United States and Canada rocks and large stones are found decorated with paint, which were regarded as possessing supernatural power, yet not directly connected with any special personage of Indian mythology. One such was seen by LaSalle's party in 1669 on the Detroit River. All the Indians of the region believed that the rock image would give safety in the passage of the lake." He also says that in Nova Scotia there is a class of incised figures illustrating the religious myths and folklore of

the Indian tribes. One of them indicates an episode of an adventure of Glooskap, the hero-god of the Abenakis. The story is that the fox, who was Glooskap's friend, through his magic power heard the song of Glooskap miles away, beyond forests and mountains, and came to his rescue. Another pictograph refers to the story of Atosis, the snake, who appeared out of the surface of a lake as a young hunter, with a large shining silver plate on his heart, covered with white brooches as thick as a fish is covered with scales. This snake, which had such wonderful powers of transformation, married an Indian girl and took her to dwell with him beneath the lake. There is a variation of the same story among the Iroquois, but this time it is the wife which appears above the water. The story runs that a young hunter was seeking for his friend who had been lost. He met eight chiefs, who wore white plumes on their heads and who dwelt in eight tents by the side of the lakes. These chiefs called up the snake-woman. The lake boiled, great waves rolled upon the shore, and the serpent's wife came out of the water, shining like silver and very beautiful, her long hair hanging around her as if it had been gold. The snake woman disappeared, and then the chiefs swept in the form of a white cloud across the water. It was the cloud in the lake and not in the sky. Thus the conception of the natives transformed the objects of nature into living beings, and invented beautiful myths to account for them. The pictographs are oftentimes nothing more than the mnemonic reminders of the myths.

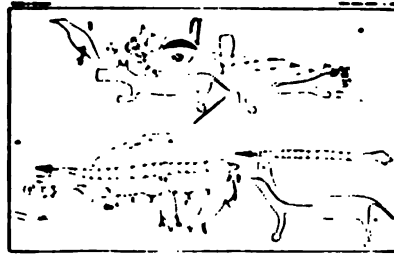


Fig. 5—Figures in a Cave in West Virginia.

In West Virginia there are rock sculptures in which are serpents, death-heads, animal figures, birds, human hands and various other designs, undoubtedly designed to represent the animals which were subject to the power of the medicine men. These inscriptions are on the walls of a shelter cave, which was probably once used as a shrine or medicine lodge. They show the communion which the medicine men had with the different species of animals and the superstition felt towards the pictures or figures of these animals wherever seen. The fabulous creature called the Piasa, which was seen by Marquette on the rocks near Alton, Illinois; was another of these myth-bearers, which embodied in themselves the element of transformation, the very grotesqueness of the figure and the variety of its parts, the horns of the deer, the head of the tiger, the scales of the fish, the feet of the panther, the tail of the wildcat, showing the shapes which this caliban might assume. Many such creatures may be seen

upon the rocks, but they only perpetuate the myths which have prevailed. The Dakotas were remarkable for their manner of representing their divinities under animal forms. They picture the ancestors of the Hanga as a giant buffalo moving under the water. They also picture the chief god as a thunder bird resting on the rocks. The anti-natural god they picture as a man carrying a bow in his hands. Mrs. Eastman has given a drawing of this. In this the giant is seen using the frog for an arrow point. He is surrounded with lightnings. He has different animals, the bear, deer, elk, buffalo; also meteors. His court, or house, is ornamented with down. He has a whistle and rattle, bow and arrow, and other objects in his hands.*

There are many other illustrations of this peculiar superstition that the spirit of the Divinity was transferred to the images which are presented in the different localities. This superstition was not confined to the figures of animals, but was also attached to every object which resembled the human form, and was especially strong toward those objects which contained the human and the animal semblance in combination. This will explain the existence of the idol called the bear idol. In this the bear's head and skin covers the human face and form, but the mask in the shape of the human face hanging in front is a peculiar sign of the transformation process. It also explains the meaning of the various figures of birds, with human heads and animal claws, which are so common on the northwest coast, as well as those remarkable idols in Guatemala, in which human forms are covered with massive and gigantic tigers.

In fact, it is to this idea of transformation which explains nearly all the nondescript creatures which have been seen in the various parts of the continent, and which makes them so suggestive and significant of the divinities which were worshiped.

Schoolcraft, Catlin and others have spoken of the animal figures which are depicted in the Mida songs and charts, to which peculiar significance was given. They have also described the transformation, which was supposed to take place in the various dances and dramatizations. But it is to later writers, such as Mr. Walter Fewkes, Mr. Frank Cushing, and Drs. Brinton and Mathews, that we are indebted for a knowledge of the deeper significance which was given to many of them, and especially to the occultic and divinatory power.

There were several classes of animal figures in which the transformation element was contained, some of them being totemic, others mythologic, others fetichistic, others occultic or divinatory, and still others largely anthropomorphic. The class to which they belonged is made known by the preponderance of one or another element, the totemic prevailing mainly in the

*See Chapter on Personal Divinities, p. 283, 284.

hunter tribes of the east, the mythologic among the fishing tribes of the northwest coast, the fetichistic among the village tribes of the interior, the anthropomorphic among the civilized tribes of the southwest, and the divinatory especially among the ancient Maya race. Different classes are found in each locality, but one class predominates in one region and another in another, so that we are never at a loss to decide as to the form which the mythology has assumed, or to understand the peculiar significance which the figures may possess.

We have given charts and cuts taken from the works of various authors to illustrate these different symbols, but have not undertaken to describe them all. Yet the reader can easily distinguish between them and readily recognize the peculiarities of each cult from the various representations of it which are thus offered, the totemic always being the simpler figure, but the mythologic and occultic being the more complicated and conventional.

4. The transformation of the nature powers into birds and of birds into human beings, who were warriors and heroes, was also common. There was a reason for using the bird as a symbol of the nature powers and for making it a myth-bearer, for it was very suggestive in its habits and shape of the sky divinities, and so was likely to be taken as a representative of the thunder-cloud, and the personal divinity who made the thunder. Various authors have noticed this.

Dr. Brinton says: "Beyond all others, two subdivisions of the animal kingdom have so riveted the attention of men by their unusual powers, and enter so frequently into the myths of every nation of the globe, that a right understanding of their symbolic value is an essential preliminary to a discussion of the divine legends. There are the *bird* and the *serpent*. We shall not go amiss if we seek the reasons of their pre-eminence in the facility with which their peculiarities offered sensuous images under which to carry the idea of divinity, ever present in the soul of man, ever striving at articulate expression. The bird has the incomprehensible power of flight, it floats in the atmosphere, it rides on the winds, it soars toward heaven, where dwell the gods; its plumage is stained with the hues of the rainbow and the sunset; its song was man's first hint of music; it spurns the clods that impede his footsteps and flies proudly over the mountains and moors where he toils wearily along. He sees no more enviable creation; he conceives the gods and angels must also have wings, and pleases himself with the fancy that he, too, some day will shake off this coil of clay and rise on pinions to the heavenly mansions. All living beings, say the Eskimos, have the faculty of the soul, but especially birds. As messengers from the upper world and interpreters of its decrees, the flight and the note of the birds have ever been anxiously observed as

omens of grave import. In Peru and in Mexico there was a College of Augurs, corresponding in purpose to the horuspices of ancient Rome, who practiced no other means of divination than watching the course and professing to interpret the songs of fowls."

"But the usual meaning of the bird as a symbol looks to a different analogy to that which appears in such familiar expressions as 'the wings of the wind,' 'the flying clouds.' Like the wind, the bird sweeps through the aerial spaces, sings in the forests, and rustles on its course; like the cloud, it floats in mid-air and casts its shadow on the earth; like the lightning, it darts from heaven to earth to strike its unsuspecting prey. Therefore the Algonkins say that birds always make the winds, that they

create the water-spouts, and that the clouds are the spreading and agitation of their wings; the Navajoes, that at each cardinal point stands a white swan, who is the spirit of the blasts which blow from its dwelling; and the Dakotas, that in the west is the house of Wakinyan, the Flyers, the breezes that send the storms."



Fig. 6.—*Fighting Figures from the Mounds.*

As the symbol of these august powers, as the messengers of the gods, and as the embodiment of departed spirits, no one will be surprised if they find the bird figure most prominently in the myths of the red race. Sometimes some particular species seem to have been chosen as most befitting those dignified attitudes. The great American eagle is the bird beyond all others which is chosen to typify supreme control. Its feathers composed the war flag of the Creeks, and its images carved in wood, or its stuffed skin surmounted their council lodges. None but an approved warrior dare wear it among the Cherokees, and the Dakotas allowed such an honor only to him who had first touched the corpse of the common foe. The Natchez and Arkansas seem to have paid it even religious honors, and to have installed it in their most sacred shrines; and very clearly it was not so much for ornament as for a mark of dignity and a recognized sign of worth that its plumes were so highly praised.*

These remarks are very suggestive, and yet much more might

*See *Myths of the New World*, p. 125.

be said about the bird as a "myth-bearer." It would seem that the aborigines were all very imaginative in their worship, and that they looked upon the powers of nature as if they were full of the activities of the supernatural beings, and so represented them under the figures of birds and other active creatures of the sky. There is no class of myths which is more expressive than the one which has regard to the bird, and none more widely distributed than this. The figure of the bird is, in fact, conventionalized and made to serve as a symbol in every part of the land—being drawn in the pictographs of the wild tribes of the north, inscribed upon the tablets and gorgets of the Mound-builders, painted upon the shields and ornaments of the Cliff-dwellers, carved into the stucco tablets of the civilized races and placed within their shrines as an object of adoration, and yet it always signifies the same thing, namely, the transformation of the sky-god into a personality which has assumed the bird-like shape. Illustrations of this are abundant, in fact, too numerous to even mention, so we select from widely scattered regions. Among the Alaskans the thunder is caused by an immense bird, whose size darkens the heavens, whose body is a thunder cloud, the flapping of whose wings causes the thunder, and the bolts of fire which it sends out of its mouth are the lightning. Rev. M. Eells says: "The Twanas and some other northwest tribes invest the animal with a two-fold character, human and bird-like. According to them the being is supposed to be a gigantic Indian named in the dialects of the various coast tribes, Klamaths, Thlinkeets and Tinnehs. He lives in the highest mountains, and his food consists of whales. When he wants food he puts on a great garment which is made of a bird's head, a pair of very large wings, and a feather covering his body, and around his waist he has the lightning fish, which slightly resembles the sea-horse. The animal has a head as sharp as a knife, and a red tongue, which makes the fire. He then flies forth, and when he sees a whale he darts the lightning fish into its body, which he then seizes and carries to his home. Occasionally, however, he strikes a tree, and more seldom a man.



Fig. 1.—Wasco and Yell.

The same thought of the thunder-bird prevails among the eastern tribes. According to Mr. J. Walter Fewkes, there were, among the Passamaquoddies, men who were able to pass through the rocks. They went to their wigwams and put on wings and took their bows and arrows and flew over the mountains to the south. They could not get home because the bird Woochowson

blew so hard that they could make no progress against it. This bird was the north wind, which Glooskap was said to have caught and tied. Thus the thunder-bird was here an Indian, as in the northwest coast. The lightning from him never strikes one of his kind.* The legend of the "thunderers" prevailed among the Hurons. The story is that a youth in the forest heard a murmur of voices behind him. He turned and saw three men clad in strange, cloud-like garments. "Who are you?" he asked. They told him that they were the thunder, their mission was to keep the earth, in order to bring rain, destroy serpents. The great deity, Hamen diju, had given them authority to watch over the people to see that no harm came to them. They gave him a dress like that which they wore, a cloud-like robe, having wings on the shoulders, and told him how they were to be moved. They said, we will leave the cloud dress with you. Every spring, when we return, you can put it on and fly with us to be witness to what we do for the good of man. In the spring the thunderers returned and he took the robe and flew with them in the clouds over the earth. This young man learned from his divine friends the secret, which he communicated to two persons in each tribe. From him came the power of making rain, which was transmitted.†

The Pawnees hold that Tirawa is the great creator, who lives up in the sky. Attius lives upon the earth. The wild animals are the servants of Attius. They are called Nahumac. They personify the various attributes of Attius, but have the power of changing from an animal's shape to that of man. The black and the white-headed eagle and the buzzard are the messengers of this Attius. The four cardinal points were respected by the Pawnees, and so they blow four smokes—first to Attius, then to the earth, and last of all to the cardinal points. They sacrifice to the thunderer in the spring-time.‡

Among the Omahas there was a society which had a peculiar regalia. They cut their hair so as to make it resemble the crow and trimmed it with crow-feathers; they blackened their faces, and on their backs had white spots, to make them emblematic of the thunder-clouds and their destructive power in their advance over the heavens. Even so the warrior, as he approaches his enemy, deals his death-darts.

The thunder bird among the Klamath Indians is the raven, but it was able to transform itself into many other animals. Gatschet says, the earth (Kaila) is regarded as a mysterious shadowy power, who deals out gifts to her children. Her eyes are lakes and ponds scattered over the green surface, her breasts

* Cf. Walter Brewster, *Journal of American Folk Lore*, Vol. III, No. 11, p. 250.

† An interesting engraving by Caton pictures the rain-maker standing upon the tent, bow in hand, and shooting into the clouds.

See Huron, *Harpe's Journal of American Folk Lore*, Vol. IV, No. 16, p. 263.

‡ See *Journal of American Folk Lore*, Vol. VI, No. 21.

the hills and hillocks. The rivulets and brooks irrigate the valleys. Besides the earth there is the genius of the under world (Munatakní) and the ghosts which represent the souls of animals and spirits of mountains, winds and celestial bodies. The common belief is that after death the soul travels the path of the sun to the west, there joins in the spirit land the innumerable souls which have gone that way before. The shooting stars are regarded as the spirits of the great chief whose heart can be seen going west, and the polar lights are supposed to represent the dance of the dead. The prairie wolf is the animal which represents the creator and culture hero of all the tribes of the northwest coast. His doleful, human-like cries heard during moonlight nights set him up in the esteem of the Indians. He



Fig. 5.—Bird, Sun and Human Figure.

appears in sun and moon stories as running a race with the clouds. He always attends another person, his shadow going by his side, and so is double; but the raven is the chief subject of their mythology.*

The Moquis also have pictographs of a great bird on the rocks near their village. In this pictograph is the symbol of the face of the sun, also the symbol of the dome of the sky with zigzag lightning, four heads of serpents and a frog. And another pictograph of a mythologic bird with feathers like crest, eight small circles. This is called *Kuctuqui*, the war bird. The god of the earth among the Moquis is a god of metamorphosis. He is the deity who controls growth.†

Another good representation of the metamorphic thunder-bird is the one which is depicted on the shield of the priest of the

*Journal of American Folklore, Vol. 5, No. 17, p. 138.

†American Anthropologist, Vol. V, No. 1, p. 16.

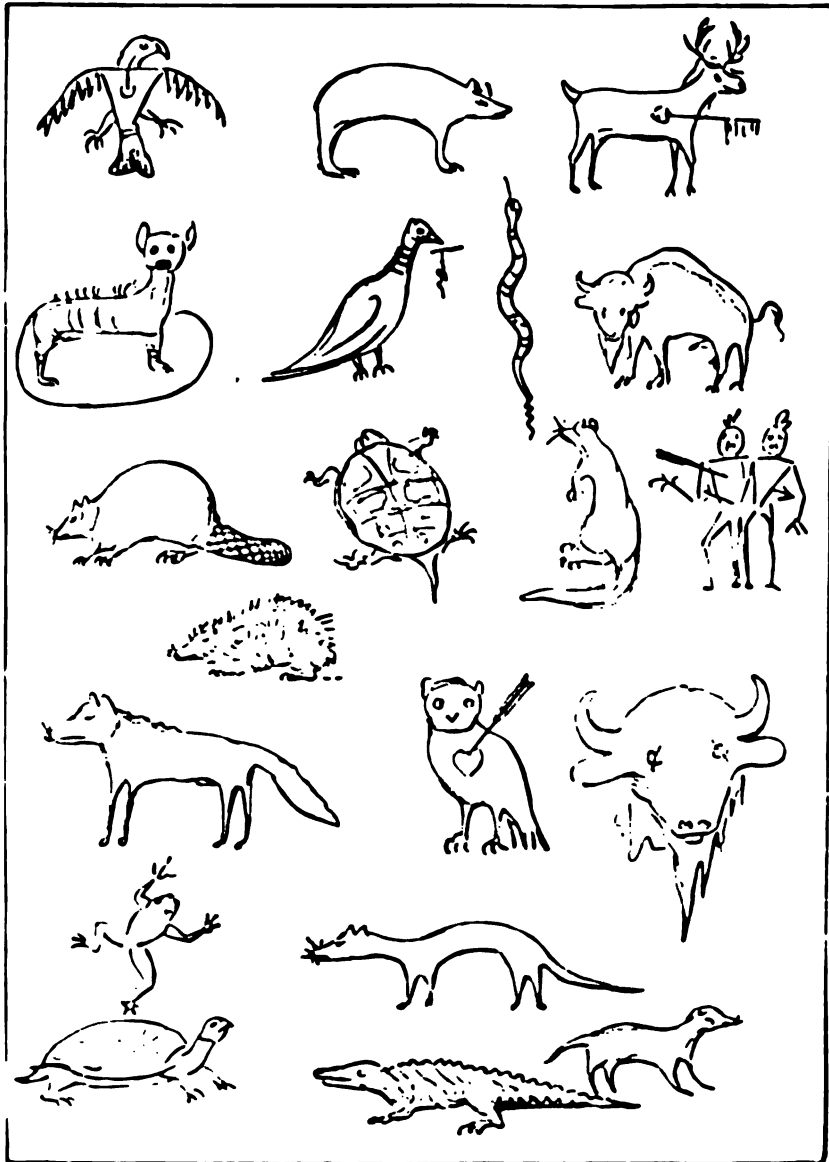
bow. In this shield we find the human form with the wings made from knife-bladed feathers. The lightning serpent beneath his feet, the human rainbow spanning like an arch above his head, a bear on either side.* The conventionalized terraced cap or mask with the feathers crowning the turrets or peaks also symbolizes the clouds and the sky and the thunder as does the bird itself.

The thunder-bird is also seen among the symbols of the ancient Mayas. Here it is associated with the cross, which is a symbol of the wind, and has many ornaments attached to it, the idea of transformation being suggested by the bird being headless.

The best illustration of the bird as undergoing transformation and carrying the semblance of a human being is the one which was seen by M. Habel sculptured on the stones in Cosumala-huapa. See Fig. 8. Here the bird has the flaming sun on his breast, a human arm projecting from its side with claws instead of a hand. It seems to be a bird of the sky and of the earth and at the same time human. No explanation of this figure has been given, yet the probability is that it symbolized the transformation of the bird into the sun and of the sun into a human being, the sculptor retaining all the symbols, as the combination would the better express the thought. It was not a mere fancy that led to the drawing of a mythologic figure by a native artist, but, on the contrary, he was always controlled by a definite purpose and had in his mind the myth as it was told. His effort was to make the figure as graphic as possible. There came, at last, a conventionality in the manner of representing a myth, and so the figures which are found upon the various relics, such as the shell gorgets and copper plates of the Mound-Builders, the shields of the Cliff-dwellers and the sculptures of the civilized nations, have all the force of a sacred record. They show the progress of thought as well as of artistic skill, but at the same time show that the same religious conception of transformation was retained through all the changes.

5. The transformation of the divinity into trees was another superstition which prevailed extensively among the aborigines of America, specimens of the human tree being found in nearly all parts of the country. We may say that no symbol in America is more interesting than is this, and none that more thoroughly reminds us of the old world stories. These all may be mere coincidences, yet the analogies are certainly very striking and the figures are the more worthy of close and candid study on this account. We would, therefore, call attention to the different specimens of human trees. The superstition about the tree spirit was very common in Europe and was frequently symbolized by the early inhabitants, conveying the idea that there

*In another figure we have the eagle with his wings spread, two serpents, their heads toward their wings, and a figure of a bear above the head of the eagle.



ANIMAL TOTEMS OF THE HUNTER TRIBES.



HUMAN TREE--GEST TABLET.

was the same transformation myth there as here. The transformation myth also existed in Egypt, and was embodied in the story of Osiris and Isis and their various adventures, the spirit of life hidden in nature being personified in this way. We find also in Assyria and Chaldea that the tree of life or the sacred grove was set up in their temples, and priests were represented as presenting offerings to it as to a divinity. In fact, there is no land on either continent where there are not stories concerning the tree, and very few places where there is not the same conception that the tree spirit was a divinity or a personal being.

We have already spoken of the tree and star contained in the Dakota pictograph and its resemblance to the Scandinavian tree of life, *Igdrasil*. There are relics, however, which suggest that the human spirit was transformed into a tree, very much as the spirit of Osiris was buried in the pillar of the house of the king at Biblos. The Gest tablet is an illustration of this. This is made up of a variety of symbols, among which we may recognize the face and form of a man, but hidden in the semblance of a tree, the branches of which form the legs and arms, the leaves form the feet and hands, also the hair, nose and mouth, circles form the eye, the human face looking out from the network of leaves and branches as it sometimes does in the modern picture puzzle. It reminds us of the sacred groves or trees which were common among the Chaldeans of the east.



Fig. 2.—Human Tree, Palenque.

Another tablet has also been discovered, which may perhaps embody the same conception, but in a modified form, for the lines upon the tablet seem to represent an animal head as hidden among the branches of the tree, instead of the human face, although the general form of the symbol is retained.

These various tablets were taken from the mounds in the Ohio valley, and so suggest that the superstition about the tree spirits prevailed among that mysterious people. A similar figure of a tree containing a human face is found in the tablet of the cross, at Palenque, usually called "Malar's cross." The peculiarity of this cross is that its arms are made up of the long leaves of corn, each of which, according to the photograph taken by Charnay, contains a human face hidden away among the leaves. The standard of the cross is made up of a solid bar, which supports on its summit the consecrational form of the thunder-bird, but on the bar, at the junction of the arms, there

is a face with a peculiar bulging eye, and below the face a necklace with a medallion suspended to it hangs against the standard.* Another peculiarity is that two human figures clad in priestly robes stand on either side and present their offerings to the bird on its summit, exactly as they do in the two other tablets at Palenque; the same symbols also cover the bird and the human form. This cross was, like all the others, contained in a shrine or temple, which was evidently devoted to the worship of a chief divinity, and may properly be regarded as representing the god of agriculture of the Mayas. It will be noticed that on the facade are two figures; on the head of one (the priest) there are leaves,



Fig. 1.—*Idol and Mantou Piece at Umal.*

cones and water plants, and eagle-heads, and that around his waist and between his legs a maxtli, or sash, in the form of a twisted feather-headed serpent, and that he has the usual bulging eye, the symbol of the god of rain; while the figure of the warrior on the other side, has on his head a crown of feathers, on which are figures of the stork, the frog and the fish; in his hand a staff made of waving corn leaves or vines. The study of these differ-

*Charnay has given a picture of the cross which shows several human faces in the arms of the cross, thus making the idea of transformation more vivid than that given in the engraving by Stephens. Taking the three crosses at Palenque, we find in the one the symbol of the sun god in the center, in the symbol of the warrior, in the third, the symbols of the rain god. The face of the sun looks out from the center of the Saint Andrew's cross. The warrior can be seen in the ends of the arms of the second, and the forms of vegetation with the human faces are scattered over the third. Human figures accompany the three crosses and the same thunder and sun gods the last two.

ent figures in the shrines of Palenque, with their symbols, convinces us that the nature powers were all personified, but that their activities were interchangeable, the sun-god, the rain-god and the god of agriculture having symbols that were similar. This was common, however, among other nations, for in the Shintoo religion the goddess of food was also the producer of

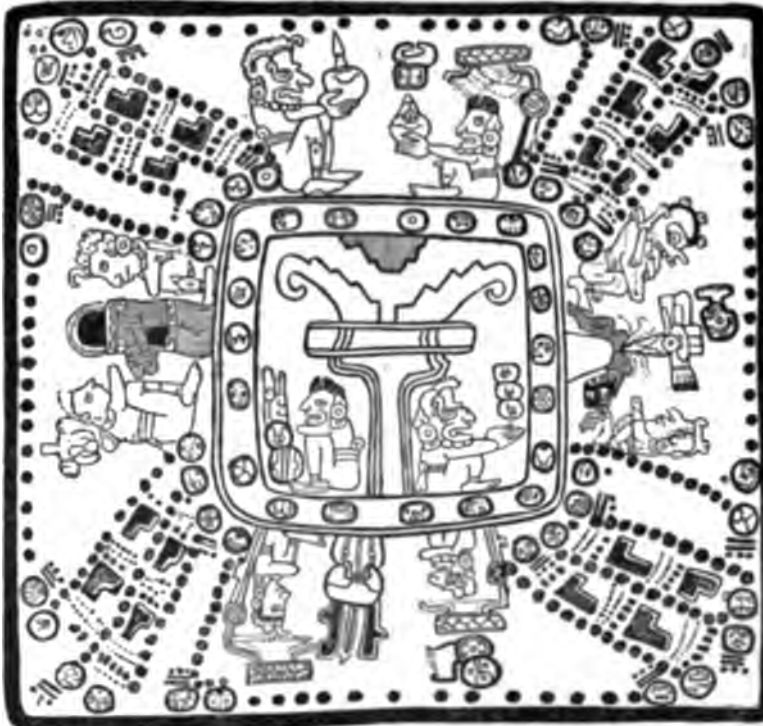


FIG. 11.—Vortician Codex.—The "Tree of Life" and Symbols of the Cardinal Points.*

trees and the parent of grass, and in the Egyptian religion the chief gods, Isis and Osiris, were but the personifications of the spirit of life, and every part of the story was suggestive of the changes of the seasons.

*The identifying of the symbols with the points of the compass and with the elements and the seasons has been attempted by many writers, but no two of them agree—as may be seen in the illustrations given in the Third Annual Report. Still, the four colors and the four symbols were associated with the elements and the cardinal points, and we may conclude that the tree with its branches and its symbols, and especially the compound symbols on them, were also symbols of the same general principles. It will be further noticed that the four symbols for the days of the month, whether for the thirteen days or the twenty days, were associated interchangeable with the symbols made up of the animal heads, cross and flints, and these were associated with the tree on the codices, showing that the tree, as well as the circle and the rectangular chart, was used as a calendar, and in connection with the system of divination. Charnay's arrangement for the Mexican calendar was as follows: 1. Tochtl—Kamit, blue, earth, south; 2. Acatl—Cane, red, water, east; 3. Tecpatl—Flint, yellow, north; 4. Calm—House, green, fire, north. Still, Gamelli, Duran, Boturini, Torquemada, Orozco y Berra, Schultz von Sellick all have different arrangements.

There are many other specimens of the human tree. Among these we would place the remarkable figure which is seen on the façade of the palace at Uxmal. This has baffled explanation, though it is sometimes called a Manitou face. See Fig. 10. May it not be a combination of the symbol of the sacred tree with the human face—the eyes and nose and ears, all of them blended with the branches of the tree, the idol, crowned with a nimbus, representing the divinity, its position in the house showing that it was a household god.*



Fig. 11.—Idol with Symbols of the Sky and Clouds.

The best illustration of the use of the tree as a symbol of transformation is the one which is found in the codices of the ancient Maya and Nahua races.† These codices contain various symbols, the cross, the bird, the serpent, the tree, and the human figure, all of them arranged differently and having a different position or prominence, according as the intent was to emphasize one or the other symbol, the serpent being the most prominent in the Borgian codex, the serpent and bird in the

*Descriptions of the palace have often been given, but no one has thus far given any interpretation of this symbol, and yet it corresponds with the many ornaments found on the façades of palaces, especially those which contain the protecting hawk with feathers on either side, and at the same time corresponds to the trees and crosses and human figures contained in the codices of the Mayas.

†We have spoken of these codices under the head of the serpent and of the cross. See chapter XII, p. 1, and chapter X.

MSS. Troano, animals and birds in the Vatican, the circle in the wheel of Duran, the cross in the Palenque tablets, and the tree in the shape of the cross, with a human figure attached, being very prominent in the Cortesian, the Vatican and the Fejevary codex. We begin with the Cortesian Codex. Fig. 11. This has been explained by Rosny, by Dr. Forschammer, Dr. Cyrus Thomas and others, and the following is the analysis of the different parts of the chart. The picture presents four divisions: 1. In the middle of which is a representation of the symbolic tree; beneath are the figures of two personages (male and female) seated on the ground and facing the Katunes, among which the symbol of day is repeated three times. 2. The central image is surrounded by a sort of frame or belt, in which are the twenty cyclic characters of the day calendar (day symbols). 3. In the four compartments, four groups, arranged according to the order of the cardinal points. Two of these figures have a flaming torch, or possibly an incense vase in their hands. Two others seem to be attending a sacrifice in which a human victim is offered on an altar; two others are seated in a temple (Calli), on which are the symbols of a cross, and two others are facing a figure resembling a bound mummy, the significance of which is unknown. 4. At the outside of the picture are the rows of dots which run along the borders, also day characters, which are grouped together at the corners, making, perhaps, a record of the feasts, or a chart of certain ceremonies, or a calendar system of the year and the days.*



Fig. 11 — Image with Cloud Symbol.

As to the meaning of the tree in these codices and on the tablets, we may say that it was the tree of life as much to the Mayas and Nahuas as the ash-tree (Ydrasil) was to the Scandinavians, or the sacred grove (Ashur-rah) was to the Babylonians, or the tree in the Garden of Eden was to the Hebrews. As to its origin, there are great differences of opinion, some supposing that it was the mere outgrowth of the nature worship which prevailed, and others ascribing it to the result of a prehistoric contact with the eastern continent. It is remarkable, however, that the same symbols of the serpent and the human form are so intimately connected with it, and that the significance of the tree should be so similar. We are

* That the tree was used as a calendar, as well as the sun-circle and the serpent symbol, is evident from examination of this chart, with its various time marks and day symbols. The tree hieroglyph, at the center of each of the four sides denote the secular month of twenty days, which was divided into four weeks of five days each. The ten hieroglyphics in the corners with the dots denote the sacred year, which was made up of twenty months of thirteen days each, as there are twenty symbols denoting thirteen days, which equal 260 days. The Fejevary Codex is arranged also in squares and loops, with four trees in the squares, with twenty hieroglyphics in the corners, which, with the dots between, make 260 as before.

to remember that there was an extensive calendar system and an elaborate system of divination connected with the tree, as with the circle and other symbols, the system of occultism having prevailed as well as in the east, and even a similar resort to caves having been common.

6. The transformation cult was also embodied in human figures, especially those which are in combination with tree figures. In reference to the human figures in this chart, no explanation has been given, yet some of the old authors, such as Veytia and Gemelli and Gomara, have thrown out hints which help us to solve the problem.



FIGURE 1. The Tree God.

These authors speak of the four symbols, the flint, Tecpatl; the house, Calli; the rabbit, Tochtl; the reed, Acatl, and say these are allegories by which they set forth the four elements which are understood to be the origin of all things, the torch symbolizing the fire; the house the element of earth; the rabbit, or mummy bound, the air; the reed, water. It is to be noted that most of the old calendars were arranged in squares or in circles to represent the cycles of the days, years and months, and the four divisions were the symbols of the four seasons that made up the year. Having found an analogy between the seasons and the year, they would carry the similitude to the age of fifty-two years and as well as to the elements making the same symbols in their combination represent the divinities, Tochtl being dedicated to the god of fire, Acatl to the god of water, Tecpatl to the god of air, and Calli to the god of earth. Thus the symbol of the tree became the center of a mass of symbolism which was very expressive of the events of the national history and of the fundamental points in their cosmogony and in their religious systems. The same is also true of the other codices, such as the Fejevary and the Vatican. In these the tree is repeated four times, each time having a different color, the branches of the tree being loaded down with fruits and flowers of different colors, the trunk being grasped by a human figure in a novel attitude.

Secret rites were celebrated in Central America which had transformation as their chief element. These were held in caverns or subterranean "temples." The intimate meaning of the cave cult was the worship of the earth. The cave god, the heart of the hills, really typified the earth, the soil from whose dark

recesses flow the limpid streams and spring the tender shoots of the full plants as well as the great trees. The cave god was the patron of the third day, also lord of animals, the transformation into which was the test of his power. Tlaloc, god of the mountains and the rains, was represented by the symbol of a snake doubled and twisted on itself, carrying his medicine bag, his robe marked with the sign of the cross, to show that he was lord of the four winds and of life.



Fig. 15.—Tlaloc, the Aztec Neptune.

In Southern Mexico and Central America the trees seen near the villages are regarded as the protecting genius of the town. Sacred trees were familiar to the old Mexican race. They are said to have represented the gods of woods and waters. In the ancient mythology the tree of life is represented by four branches, each sacred to one of the four cardinal points. The conventionalized form of this tree in the Mexican figurative paintings resembles a cross.

In Alaska, according to Niblack, the wind spirit, who causes the changes in the weather, is represented by a figure which has the ears of a bear and the face of a man. On the right and left are the feet, which symbolize the long streaming clouds. Above are the wings, and on each side are the different winds, each designated by an eye, and by patches of cirrus clouds. The rain is indicated by the tears which spring from the eyes of Tkul, the wind spirit. The best illustration of these mythologic changes is the one given by the Haida myths. The story is that there was a war between the raven and the thunder-bird. In order to overcome his enemy, the raven let all kinds of animals go into the whale, and they went to the land of the thunder-bird. When this bird saw the whale, he sent out his youngest son to catch it, but he was unable to lift it. He stuck to the gum that was on the whale, and the animals killed him.

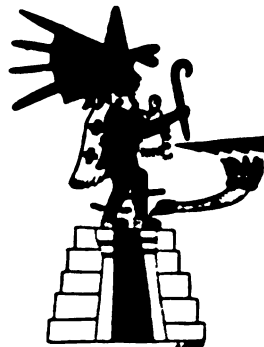


Fig. 16.—Quetzacoatl, Air God of the Mayas.

This same use of the human figure as a symbol of the clouds and winds and sky is also illustrated by the idols which are common among the ancient Hopi or Moquis. In these the feather is the symbol of the cloud; the stripes on the face and form are the symbols of the sky; the terraced head-dress is also a symbol of the houses above the sky; the arches are also symbols of the arches of the sky. See Fig. 13.

The same conception is also represented by the vase described by Dr. Hamy, Charnay and others, and by the idol described by M. Biart and several others. The vase was found by Charnay at Tennepanco, and the idol at Oazaca, Mexico, and is now in the Trocadero Museum. Both represent Tlaloc, the god of rain, who was always accompanied by the god of air. This represents the rain god as furnished with eyes in the shape of sun circles; mouth lips and teeth in the shape of wind circles; the whole form containing the various symbols of the nature powers. These two images as well as the figure on the facade of the palace illustrate the prevalence of the transformation cult among the ancient Mayas. See Fig. 15.

The use of a winged human figure to represent the "transformation myth" is illustrated by the statue which Dr. Hamy has described as standing upon the summit of a pyramid at Uxmal. This is the statue of Quetzacoatl, the air god or sun god of the ancient Mayas. He is generally represented as a white man, clothed in a garment decorated with crosses and wearing a beard. Here, however, his garments as they shake in the wind appear like wings, but are covered with crosses, which are also symbols of the wind as well as the cardinal points. At his feet is the figure of a feather-headed serpent, also having the shape of a wing. See Fig. 16. On his head are the four plumes, which also represent the winds. The attitude of the god is very suggestive, as is the crook or staff in his hand, but the human face and form are the most expressive of all, for these show that he was a personal god as well as a representative of the various nature powers.

PLANT FORMS ON MEXICAN AND CENTRAL
AMERICAN TABLETS.

J. W. HARSHBERGER.

It is frequently very difficult to interpret symbolic forms on sculptured stones which have been found isolated from buildings and structures, the archaeological significance of which is known by the internal evidence of their architectural design and construction (instance the cyclopean period of Greek architecture), unless the monumental slabs bear inscriptions easily deciphered, as the Egyptian hieroglyphs, or the Babylonian cuneiform characters. In the case of stone tablets, however, it is exceedingly perplexing to determine the historical position or mythological importance of the chiseled rocks, when the engraved signs are enigmatical.

Frequently light is thrown on the history of a monument by studying the plant and animal forms cut thereon. In many cases, however, only conjectural interpretations can be given, for the figures are so conventionalized by the Indian artist, as to be unrecognizable, even to the practiced eye of a biologist. Native American artists seem to have been fond of symbolizing plant and animal forms by conventionalization. The early Spanish fathers and travelers made some wild guesses as to the meaning of Mexican and Central American carved designs, and they have been followed in their speculations by many scholars of repute at the present day. Goodyear speaks about the lotus; Charnay about the water lily; Bancroft, about the maize leaf, and others about pine cones; but no one has identified them for a certainty.

The writer, being a botanist, at the suggestion of Dr. Peet, examined the published figures of several slabs and monuments, notably, "The Palenque Tablet of the Cross" and the porphyritic slabs found by Dr. S. Habel, in Guatemala, to determine, if possible, the plants figured thereon. The results of the inspection are here given: The plant forms recognizable in the "Palenque Group of the Cross" are three in number, a leaf at the base of the cross, a flower pendant from the ear of the left hand human figure and a simple three-lobed leaf to the right of the upper part of the cross. The pendant flower resembles very closely in general outline a flower of the tobacco *Nicotiana tabacum*, which is long and tubular, with a monosepalous (gamosepalous) calyx. Flowers of tobacco were used by the North American Indians in their rites and ceremonies. Hawkins, in his account of the Festival of the Busk, records some

interesting facts in this connection. He says: "Two men, appointed to that office, bring flowers of tobacco of a small kind (Imchau-chu-le-puc-pug-gee), or as the name imports, old man's tobacco, and put them in a pan on the wico's cabin," and in another place he says: "The cane is stuck up at the water's edge, and they all put a grain of old man's tobacco on their heads and *in each ear*." The leaf at the bottom of the cross resembles a tobacco leaf with the upper margins enlarged and turned over. The veining of the conventionalized leaf closely approximates that of the tobacco leaf, as the outline drawings upside down will show.



Natural Leaf

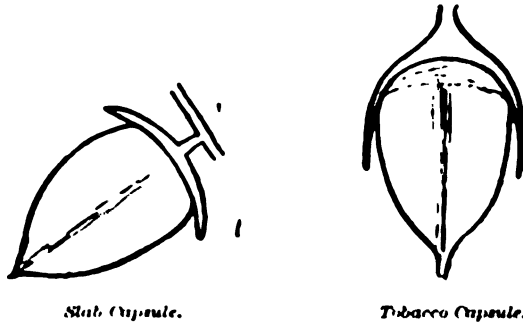


Conventionalized Leaf

The plant from which the three-lobed, sassafras-like leaf was taken is not known. If other vegetal forms are pictured on this celebrated Cross Tablet, they are so changed by the stoneworker as to be unrecognizable.

The identification of the plants on the tablets from Santa Lucia Cosumal-huapa, as given by Dr. Habel in *Smithsonian Contributions to Knowledge* (Vol. XXII, 1878), is difficult. Sculpture No. 2, Plate I, is a porphyritic (vulcanite) block twelve feet long, three feet wide and two feet thick. Only the upper part of the sculpture concerns us. It represents the head, arms and breast of a deity, apparently a personage of advanced age, as indicated by the wrinkles on the face. The winding staves twined over the head have not only nodes attached, but also variously shaped leaves, buds, flowers and fruits, apparently, as Dr. Habel suggests, the symbols of speech replacing our letters. Dr. Habel, in describing the figures on this vulcanite slab, says: "As to the theological principle symbolized by this deity, I do not venture to express an opinion, it is only by deciphering the mandate represented by the winding staves above mentioned that we can arrive at a positive knowledge of his (the deity's) true character." Examination of the plants attached to the staves

shows flowers, fruits and leaves of various kinds, intermingled indiscriminately. In the middle left-hand side is an acorn, apparently. The flowers are so conventionalized that they cannot certainly be identified. The fruits, likewise, are so outlined as to be beyond recognition, except one which looks as if it might be the capsule of a tobacco plant. This impression is strengthened by comparing the single fruit found to the left in Sculpture 15 with the seed vessel of tobacco. The drawings show a similarity, when the calyx of the tobacco flower is cut away in front.

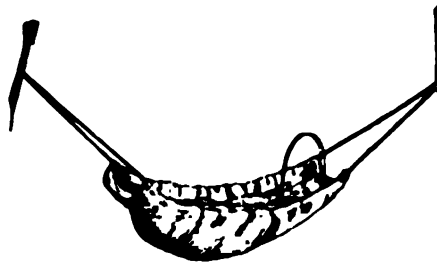


In Sculpture No. 5, Plate III, we see again the head, chest and arms of a deity represented, beneath which is a person adoring, as in Sculpture No. 2. "The ornaments of the head consist of staves winding in various directions, the bearers of the deity's mandates expressed in cipher language. From the neck emanate two staves bearing nodes, buds and other unknown figures. Attention is especially called to the disposition of the two staves arising from the top of the head. After curving outward for a short distance, they are connected by an arched ridge, upon which, as a base, a triangle is erected, and in the center of the inclosed space are two mysterious emblems. The ridge forming the central triangle is prolonged so as to divide the entire upper part of the stone into five triangular spaces, which are embellished by the leaves, buds and other ornaments of the winding staves." I have been unable, after a careful examination, to settle the identity of any of the flowers, fruits or leaves figured on Dr. Habel's tablets, as they are too much changed in conventionalization. It seems likely, however, that here and there among the winding staves, bunches or grapes are attached.

AN OJIBWA CRADLE.

BY HARLAN I. SMITH.

While visiting at the Ojibwa settlement, in the township of St. Charles, eighteen miles southwest of Saginaw, as well as the one on "Poy-ga-ning" Creek, in the township of Buena Vista, eight miles northeast of the same place, it was found that the usual method at present of cradling the child is in a hammock. This is constructed in a few moments, and from material such as is usually at hand in the Ojibwa home. In general appearance, this hammock resembles the one from Cape Breton, which is figured in "Cradles of the American Aborigines," by Prof. O. T. Mason, p. 169. Judging from that sketch, the details of structure differ somewhat from those of the Ojibwa hammock of the vicinity mentioned, although possibly they originated with groups of the same linguistic stock.



An Ojibwa Cradle.*

To construct the hammock, two ropes are stretched between two points, which are from four to eight feet apart, in the habitation, or, in the summer season, from convenient trees or posts, near the summer shelter; then a shawl, blanket or similar fabric, such as is usually at hand wherever the little Ojibwa is present, is folded to the length and about three times the width of the contemplated hammock; this is then passed below the two rope strands, in such a way that the extra two thirds of width can be folded in, one from each side, over the rope on that side, and extending about to the other rope, which has been held away from the first a distance equal to the width of the hammock. This being done the two thirds overlie the center one third, and, together with it, form the three thicknesses of the cradle bottom.

*Drawn by E. Newton

The weight of the child binds the ends and holds the fabric in place. In some cases, especially if the child be a heavy one, this completes the cradle; but usually two sticks, each a trifle shorter than the width of the hammock, are placed, one at each end, just below the rope, inside of the cradle. These serve, not only to further aid in holding the fabric from slipping, but also to spread the ropes and tend to give to the cradle a rectangular shape. In case the child is heavy, it causes these sticks to tear through the fabric, and hence they cannot be used. The selection of these cross-sticks is not at all particular, any convenient twig or stick being used. Bedding is placed in the hammock as is desired. Sometimes nothing is used below the winding in which the child is encased. In other instances this is supplemented by placing bedding below it. A bent twig, or perhaps more often, a piece of one of the strips cut for baskets, is bent up and the ends placed down in the cradle, near the head, the pressure of the bow holding it in place; this serves to hold up from the child's face a net or other light fabric intended to protect it from flies, mosquitoes, etc. I have never seen it used at these settlements as a support for objects of amusement for the child.

The methods of carrying the young children upon the back, held in place by a shawl drawn tightly around the mother's shoulders, and the ways of bandaging them into a helpless bundle, with arms as well as legs held fast, must have a considerable effect upon the physical development of the child. Often before the age of a week is attained, the winding is so close as to seem severe. Interesting as are these methods, a description of them at this time would be premature and must be deferred.

Saginaw, E. S., Mich.



PALESTINE EXPLORATION FUND.

BY THEODORE F. WRIGHT, U. S. SECRETARY.

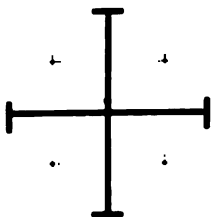
The work at Jerusalem has begun. After the firman was obtained the governor of the city hastened the settlement of local matters, and Mr. Bliss set fifteen selected men to work. He began at a point near the English cemetery, on the south-western part of Zion, and immediately struck a rock scarp which could be followed with the certainty that no time would be wasted. The first two weeks of his work are described, with a plan, in the July Statement.

It is easily seen that Mr. Bliss may not be able to study at once all that he finds. His men work about twelve hours a day. He must constantly watch the results of their digging.

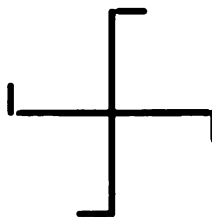
Thus coins and pottery and other instructive objects are laid aside as soon as found till there shall be time to clean and examine them. If all goes well, Mr. Bliss will keep on as he has begun, tracing out the earliest fortifications and hoping to uncover structures of David's day and later.

While waiting for this permit he went down to the Jordan plain and looked at mounds like Tell-el-Hesi. He reports that, when the day for excavating in the vicinity of Jericho shall come, he believes that excellent results will follow. The Jordan valley will, of course, be deferred, but it is well to be in advance with plans. Not only Jericho, but the Cities of the Plain may yet display their foundations to this young American explorer, if he does not succumb to the climate.

A discussion is going on as to the Jerusalem cross (a), which has been taken as the emblem of our Fund. Herr Conrad Schick, who is a very thorough student of such matters, gives a number of crosses somewhat similar, and concludes that this five-fold cross was borrowed by the Crusaders from the Armenians. He does not tell us where the Armenians got it. Major Conder, on the other hand, believes it to have come to the Crusaders from local sources and sees a relation between it and the swastica.



A.



B.

This raises the question as to the origin of the swastica (b). It is found in ancient Troy, it is the Indian Buddhist "wheel of the law," it has been discovered in Mexico and Peru, and visitors to the Exposition will remember the beautiful specimens of it in hammered copper taken from the Hopewell mound in Ohio and now preserved in the Columbian Museum. The evolution of the cross would be a good subject for a young archæologist to take up.

Very careful soundings have been made of the Sea of Galilee, showing that it has a very clear bottom and is about 160 feet deep in the center.

A metal mouse, recalling the golden mice of I Samuel, vi, has been found and is discussed. It seems that our rat is from Central Asia and has spread all over the world.

In view of our increasing work, new subscribers are cordially welcomed.

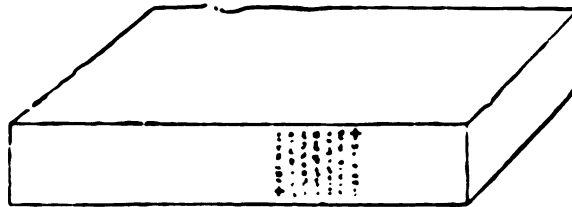
THE STONE OF CANA.

[Reprinted from *The Sunday School Times*, 1895.]

To the list of monuments regarded with interest and veneration as connected with the life and miracles of our Lord, there seems now to be added another, through a discovery at Elatea by M. Paris, a student of the French Archæological School here.

†ΟΥΤΟ ΕΣΤΙΝ
 Ο ΛΙΘΟΣ ΑΠΟ
 ΚΑΝΑ ΤΗΣ ΓΑ
 ΛΙΛΕΑΙΣ ΟΠΟΥ
 ΤΟ ΥΔΩΡ ΟΙΝΟΝ
 ΕΠΟΙΗΣΕΝ Ο Χ
 ΗΜΩΝ ΓΕΧC†

M. Paris was making excavations with reference to the temple of Minerva, when he came upon the remains of a church of the Virgin, belonging evidently to the middle ages, and found a slab of grey marble veined with white, bearing this inscription, in Byzantine characters: "This is the stone from Cana of Galilee where our Lord Jesus Christ made the water into wine." The stone is 2.33 meters in length, 0.64 meters wide, and 0.33 meters high. The upper surface, one side and one end, are carefully

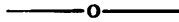


The Stone of Cana, showing the Position of the Inscription.

polished, while the under surface and remaining side and end are simply hewn, as if intended to be placed in a corner of a room. The inscription is on the larger polished lateral surface, not running from end to end, as might naturally be expected, but across the narrower way. The supposition is that this is the stone-couch upon which our Lord reclined at the marriage supper at Cana. The inscription alone would not justify the conclusion; but M. Ch. Diehl, in a long article devoted to this

subject in the *Bulletin de Correspondence Hellénique*, argues that the inscription was doubtless engraved upon it at the time of or subsequent to its removal from Cana, and was considered sufficient to designate the stone as the well-known object of veneration among the early Christians.

Comparing the text of Antonin with the slab of Elatea, M. Diehl finds an inscription near the end, where the head and upper part of the body might reline, the translation of which he makes out to be this: "Remember, Lord, my father and my mother. Antonios." And he infers that it is highly probable that the Antonios of this inscription is no other than the Antonin de Plaisance. "Thanks," says Diehl, "to an insignificant detail mentioned by a pilgrim of the sixth century, the famous stone of Cana has already an assured origin and history."



EGYPTOLOGICAL NOTES.

BY WILLIAM COPLEY WINSLOW, D. D.

With the spades at rest and the diggers on vacation summer notes are necessarily short and unnewsy.

Dr. Flinders Petrie writes thus anent the "Egyptian Research Account," as he names his project: "You will see by the enclosed that I am trying to open up a permanent looting for working students in Egypt. The time seems to have come for some such step, as men are coming forward and we need some regular organized basis for them. If this should succeed I much hope that I may have the pleasure of having some American students to join with me from time to time. You may have seen in *The Academy* the list of the long historical series that I found this year at Koptos, which has opened a new chapter in Egyptian history."

The importance of having a school in Egypt for the training of students in practical Egyptology needs no echo from my pen. A few years ago I advocated the measure and, with the co-operation of Professor Norton, of Harvard, and Hon. Martin Brimmer, of Boston, a Harvard graduate, passed some months with Dr. Naville in Egypt.

Dr. Petrie remarks in his circular: "I hope to be able through this Research Account to group around my own district of work each year such students as may desire to take up original research. It has long been recognized that a British school of archaeology (and American?) is greatly needed in Egypt; and as the Research Account develops it may be transformed in the

future into a more definite scheme of an archaeological school. Such an institution could hardly have a more appropriate basis in England than the Amelia B. Edward's chair at University College, which is, as yet, the only established teaching centre for the subject in the English language, and on which, therefore devolves, the duty of making such provision for the British students." Dr. Petrie may be addressed at the Edward's Library, University College, Gowen Street, London, W. C.

Dr. Naville writes me a long and interesting letter apropos his great undertaking at the site of the temple of Queen Hatasu. After describing the results thus far he truly asserts: "But the work must be completed. I believe it will require another campaign on the same proportion as the last to terminate. * * * I wish that you could see some of the American travelers who were at Deir-el-Bahasi. They will speak to you of the importance and the interest of the work, *de visa*, and of the necessity of not stopping till the clearing is finished. I say this because I believe it would be disastrous to the work and to the fund also to stop or postpone our labors. I did my best to create interest among the numerous travelers who came to Luxor, and I think I succeeded in some respects. The Americans are those who have shown the greatest interest, and as there are among them men with very large fortunes they will perhaps give us some help. I must mention first Mr. Ayer, of the Chicago Museum, a very kind and cultivated man, who said that the Chicago people were willing to subscribe for things of this kind. Then there is Mr. Blatchford,* also from Chicago, and lastly, the famous millionaire, Mr. Andrew Carnegie."

Dr. Naville, in common with myself, fears that the decrease in the society's revenue will imperil the completion of the excavation and transcription of the splendid scenes and texts at the site of the temple of the Queen Elizabeth of Egyptian history.



AMERICA VISITED IN PRE-COLUMBIAN TIMES.

Prehistoric America was the subject of two of the papers read at the recent meeting of the British Association. Mr. H. Yule Oldham endeavored to show from the manuscript map of Andrea Bianco in Milan, dated A. D., 1448, that Brazil had been discovered previous to that date. Not only does it exhibit the results of the Portuguese discoveries as far as Cape Verd, but there is drawn at the edge of the map, southwest from that cape, in the direction of Brazil, a long stretch of coast line, labelled "Authentic Island," with a further inscription to the effect that it stretches "1,500 miles westward." This fact, taken in con-

*Hon. E. W. Blatchford's letter to me from Egypt appeared in *The Chicago Tribune*.

nection with Antonio Galvano's story that in A. D. 1447 a Portuguese ship was carried by a great tempest westward until an island was discovered, from which gold was brought back to Portugal. The author thinks it affords presumptive evidence that South America was first seen at that time. In the other paper, Dr. E. B. Tylor argues that by a comparison of the Aztec and Buddhist myths the Asiatic influence on the pre-Columbian culture of America can be proved. He instances the four great scenes in the journey of the soul in the land of the dead, depicted in a group in the Aztec picture-writing known as the Vatican Codex. These are the crossing of the river; the fearful passage of the soul between the two mountains which clash together; the soul's climbing up the mountain set with sharp obsidian knives, and the dangers of the wind carrying such knives on its blast. But these are strikingly similar to the scenes from the Buddhist hells or purgatories as pictured on Japanese temple scrolls. Here too are the river, the two mountains being pushed together by two demons, the mountain of knives and the knife-blades flying through the air on fierce blasts of wind. These analogues are so close and complex as to preclude any explanation except direct transmission from one religion to another.—*Reported in Nation.*

ANCIENT CITY IN GUATEMALA.

Besides the interesting archaeological collection of the first capital of Guatemala, Santiago de Los Cubeleros, now known as "Ciudad Vieja" (old city), a buried city has recently been discovered on the slopes of the Volcan de Agun, about a league east of the former, says the San Francisco *Chronicle*. It lies on the land of Manuel J. Alvarado, called the Pompeii plantation. Not the slightest tradition remains to connect it with the present age.

Two years ago the owner of the lands, finding a few ancient Indian relics, resolved to make excavations at different points. In one place, at a depth of twelve feet, he has taken out a great many rare and interesting objects, such as flower pots, earthen vessels for domestic use, ancient glazed ware, large vases of exceedingly fine manufacture, covered with engravings and with pictures in brilliant colors painted upon them, domestic utensils for the kitchen such as the Indians use to this day; axes, hammers, tomahawks and war clubs of stone; knives and daggers of obsidian, with sharp points and edges; lances and lancets of the same material, idols of stone and clay, well-wrought jewelry of turquoise and other precious stones, of all ordinary sizes and figures. Among the jewels was found a rare kind of precious

stone of deep green color, known among the aborigines as the chal-chi-villi stone, capable of the highest polish. This stone Indian royalty of long ago wore as the waist and breast ornaments on state occasions.

On some of the finest vases were artistically traced symbols and characters, the colors as fresh and brilliant as though they had just left the artist's hands.

Most of the clay idols are well formed. Some of the carved faces wear the tragic mask, but in one particular, evidently of a later day, is a fat, pot-bellied, round-faced, plump-cheeked little chap, the incarnation of good living. The people of that remote time must have had a certain sense of humor, and did reverence to this idol as the god of fun.*

Among the stone idols are two worthy of special note, chiseled from a hard brownstone and representing a person in a reclining flat front position, with the head erect and the chin on a line with the body. The head, face and neck are sculptured to a perfect finish, but the rest of the body is in an unfinished state. The contour and the expression of the well-cut features of the larger one is a most striking likeness to the features of the Roman race, while the smaller one represents the highest type of our Indian race. On the head of each is a remarkably well executed warrior's helmet, mounted with a clear-cut tuft or crest of feathers hanging over a rimless front. Encircling it is a wide band, well up on the forehead, ornamented with quadrant figures in bas-relief set closely one within another from the outer lines to the center, all arranged with perfect mathematical precision. In its make-up the helmet closely resembles that worn by the Praetorian guards of Rome. Another idol of natural size, wrought from the same material, attracts attention as being a perfect resemblance of the Mongolian race, with slanting moon eyes, flat nose and high cheek bones.

At the foundation level of the houses were found many human skeletons scattered about on the floors as though they had fallen there by some sudden casualty, some in a sitting posture and others lying prone. Some of the skeletons measured from six to seven feet in length. Also within these buried dwellings were found many human skulls placed in a glazed clay vase ornamented with crude figures in gaudy colors. In some of these vases the heads were placed in an erect position, the chin on a level with the rim of the vase, and some were face upward, each one holding in his mouth of chal-chivilli stone wrought in the shape of the human tongue, and also another class of well-wrought precious stone with a hole through it placed immediately under the nose. Evidently the latter had served as nose jewels. The foreheads of most of the skulls are broad and high,

*Similar figures are common in Japan.

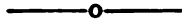
the cheek bones prominent and the chin projecting. It seems probable that this extinct race esteemed the head as the noblest part of the body, and at death had it severed from the trunk and kept as a sacred relic of the dead.

HIEROGLYPHICS AND PRE-PHœNICIAN SCRIPT.

At one of the recent morning meetings of Section H—Anthropology—of the British Association, Mr. Arthur J. Evans read a paper on "A New System of Hieroglyphics and Pre-Phœnician Script from Crete and the Peloponnesus," embodying the tentative results of his recent discoveries, alluded to in a letter from Crete lately published in these columns. Analogous systems had once existed, Mr. Evans thought, within the European area. He had found similar pictographs on a Dalmatian cliff, they still survived in Lapland, and the "Maravigli" figures, carved on a limestone rock in the heart of the Maritime Alps, were well known. Evidence of a hieroglyphic system just obtained for Asia Minor in connection with the Hittites had been lacking hitherto for Europe. Dr. Schliemann had begun, and others had carried forward, the discovery on Greek soil of a civilization which was the equal contemporary of those of Egypt and Babylonia. Was this civilization wholly dumb? Homer contained a hint that it was not, and the writer's visit of last year to Greece had yielded a clue to the existence, especially in Crete, in peculiar seal-stones engraved with symbols of a hieroglyphic nature. His still more recent explorations in central and eastern Crete had brought to light a series of these pictographic stones, so that he was now able to put together over seventy symbols belonging to an independent pictographic system. On stones of similar form, on prehistoric vases, and elsewhere appeared a series of linear characters, many of which seemed to grow out of the pictorial forms.

The Cretan hieroglyphs, like Hittite and Egyptian ones, fell into distinct classes—parts of the human body, arms and implements, animal and vegetable forms, objects relating to seafaring, astronomy, geometry, and the like; primitive gesture-language appearing in two crossed arms with extended palms. The symbols occurred in groups, showing traces of a boustrophedon arrangement, and exhibiting certain affinities to Hittite forms. The "temple," or "templet," of a decorative artist occurred among them; and with a model of this symbol, the writer, guiding himself by a design from a Mycenæan gem from Crete, reconstructed the design of a Mycenæan painted ceiling alike resembling that of Orchomenos and of tombs at Egyptian Thebes belonging to the eighteenth dynasty (*circa* 1600 B. C.) The

linear characters were more like an alphabetic series. These fitted on to signs engraved at Cretan Cnossos on the walls of a Mycenæan palace, and again to two groups of signs from the Mycenæan vase-handles. It was thus possible to reconstruct a Mycenæan linear script of some twenty-four characters, each probably having a syllabic value. A large number of these linear syllabic signs were then shown to be practically identical with the syllabic signs used by the Greeks of Cyprus. These Cypriote signs illustrated the phonetic value of the Mycenæan linear characters. Here, then, were two hitherto undiscovered systems of primitive script belonging to the second millennium B. C., and going back to a day when the Greeks were unacquainted with Phœnician symbols. These two older systems certainly overlapped chronologically, as some pictorial forms of the one system appeared in a linear form in the other; the double axe, for instance, occurred in two stages of linearization, the simpler form being identical with the Cypriote character. The pictographs seemed especially Cretan, the Eteocretans being especially addicted to their use; the linear forms were Mycenæan in the widest sense. Reasons from the Bible and from Egyptian monuments were then given for identifying the Eteocretans with the Philistines, or Krethi, of Holy Writ—*The Nation* for September, '94.



Correspondence.

AZTEC CREATION LEGENDS.

Editor American Antiquarian:

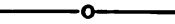
In reply to the question in yours of the 2nd, in reference to the Aztec creation legends, I would say that the most coherent account of them is in the works of Ixtlilxochite and Veytia, published in Kingsborough, Mexico. We there find the myth of the creation of the world, its four ages or suns, followed by their respective destructions, and the history of the fifth age, in which we live. The codices on which Ixtlilxochite founded his history are unquestionably ancient and genuine, and some of them are still preserved in the Goupil collection in Paris. They show no trace of European influence. They do, indeed, refer to a general deluge, but this is merely one of the four modes of the destruction of the world, which occurred in sequence by the four elements, wind, fire, earth and water; and is not in any way connected with Asiatic myths.

The first chapter of the Popol Vuh is an authentic cosmogon-

ical myth. That of the Mixteca, as translated from a pre-Columbian codex, is given fully by Garcia, in his "Ori-gén de los Indios." He also adds that of the Guaymis and others.

Schoolcraft, in his "Oneota," relates the Tinné myth, and others have later. Very many had traditions of a general deluge, which I have explained in my "Myths of the New World" (chapter VII) as really modifications of the creation myth, and not borrowed from missionaries or other continents.

Truly, D. G. BRINTON.



Editorial.



WHAT THE SPADE IS TURNING UP IN THE EAST.

Some two hundred and fifty peasant workmen, under the direction of Dr. Charles Waldstein, of the American School of Archæology at Athens, have been excavating the Argive Heraeum, or temple of Hera (Juno), midway between Argos and Mycenæ. The old sanctuary on this site was burned B. C. 423, but a new and more splendid structure was erected in its immediate vicinity, and adorned with a gold and ivory statue of Hera, the work of Polykleitus of Sicyon, the famous rival of Phidias. This second temple lasted until the Middle Ages. Both sites have been laid bare. Not only has complete information of the architecture of these shrines been reached, but works of art have been brought to light almost equal in importance to the discoveries of Schliemann. Still more interesting, and possibly more important, are the results of the explorations of the ruins of Niffer, near ancient Babylon, which have been going on since 1887, under the direction of Dr. Peters and Prof. Hilprich, of the University of Pennsylvania. The temple of Bel, the first shrine to the god ever systematically excavated, has been dug out to its foundations. Evidence has been gained from inscriptions that this city was 1,000 years older than scientists had believed, and that the antiquity of the human race must be carried back to a period at least 4,000 years before Christ.



SACRED WELLS IN AMERICA.

In the western portion of Kansas, about a quarter of a mile from Salomon River, there is a sacred well. This curious water receptacle is situated on the top of a hill, and has a nearly circular form, with about thirty feet diameter. All the hunting tribes

of the prairie regarded it with a religious intent, mixed with awe. The Pani called it, or call it still, Kitch-Walushti, the Omahas, Wiwaxube, both names signifying sacred water. The miraculous quality of this pool which chiefly astonishes the Indian mind, consists in a slow rising of the water whenever a large number of people stand around the brink. The water of the pool is perfectly limpid and considered to be bottomless; it harbors an aquatic monster, which engulfs all the objects thrown into it, and never sends them up again. Indians offered to it bread, arrows, kerchiefs, ear-rings, even blankets, and all this sinks down immediately. Before putting clay or paint on their faces, the Indians impregnated these substances with the water of the well. They never drink of this water, but to allay their thirst, go to the neighboring Salomon River.



A "STAMP" TABLET AND COIN FOUND IN A MICHIGAN MOUND.

A Carson City, Mich., correspondent of the *Detroit News* writes that the remains of a forgotten race were recently dug up from the mounds on the south side of Crystal Lake, Montcalm county. One contained five skeletons and the other three. In the first mound was an earthen tablet, five inches long, four wide and a half an inch thick. It was divided into four quarters. On one of them was inscribed curious characters. The skeletons were arranged in the same relative position, so far as the mound was concerned. In the other mound there was a casket of earthenware, ten and a half inches long and three and one-half inches wide. The cover bore various inscriptions. The characters found upon the tablet were also prominent upon the casket. Upon opening the casket a copper coin about the size of a two-cent piece was revealed, together with several stone stamps, with which the inscription or marks upon both tablet and casket had evidently been made.* There were also two pipes, one of stone and the other of pottery, and apparently of the same material as the casket. Other pieces of pottery were found, but so badly broken as to furnish no clew as to what they might have been used for. Some of the bones of the skeletons were well preserved, showing that the dead men must have been persons of huge proportions. One of these mounds was partly covered by a pine stump three feet six inches in diameter, and the ground showed no signs of ever having been disturbed.

*The Editor does not endorse this find, for the prehistoric tribes did not place inscriptions in pottery nor coin in boxes, and did not often use "stamps" for their pottery patterns. Will the archaeologists of Michigan investigate and report?

ETHNOGRAPHIC NOTES.

BY ALBERT S. GATSCHET, WASHINGTON, D. C.

GARRICK MALLERY'S "Picture Writing of the American Indians" is an extensive, profusely illustrated treatise, which, with its eight hundred and seven pages in lexicon octavo, fills almost the whole of the "Tenth Annual Report of the Bureau of Ethnology," 1888-9. There are fifty-four full page plates, partly in colors, and not less than twelve hundred and ninety large and small cuts and electrotypes in black print. The colonel refers to a former article of his on Indian pictographs, published as a "preliminary paper" in the "Fourth Annual Report." The present work is a continuation and elaboration of the same subject. "Picture writing is the direct and durable expression of ideas of which gesture language gives the transient expression" (p. 26). The treatment of the petroglyphics in both Americas is followed by that of the African, Asiatic and European glyphs, and by a sketch of the substances, tools and other appliances which serve to produce and perpetuate them. The pictorial marks for Indian totems and messages, tribal and clan designations, tattooing, and personal names form another interesting chapter, which occupies over one hundred pages. Other peculiarities which Indians express very graphically by picture marks and characters are those conveyed by religion, customs and manners, shamanism and symbolism, historic events, biography, significance of colors (twenty pages), abstract ideas, gesture and posture signs when depicted. It is no exaggeration to call this article a full and rich cyclopedia of pictography, through which the development of art can be studied in its earlier and earliest stages among a large number of nations. No textual description will do justice to the wealth of information contained in these pages, we have to read the book ourselves and then we will say: the perusal of it can be better called a *pleasure and delight* than a study. By his great skill in graphic representation Dr. W. J. Hoffman has materially added to the value of Mallery's artistic treatise; he has shown that illustration and pictures can teach us many things much more accurately and impressively than the best textual description. This is also the reason why in our weeklies and magazines, even in the daily press, illustrations begin to influence and even to crowd out the printed matter.

FREDERICK KURZ, an artist painter of northwestern landscape scenery and of the Indians of that region, though but little known in this country, has left sketches which show him to have been a successful rival of Catlin. He was born and raised in the city of Berne, Switzerland. In 1839 he met Alexander von Humboldt and was encouraged by him to visit America for the artistic purpose of sketching, which Kurz had nurtured since his boyhood. In 1846 he was in New Orleans and in 1848 on the Upper Missouri. He left a complete and very interesting diary of his travels and observations, written in German, which is now being published by the Geographical

Society of Berne and by the "Schweizerische Rundschau" (1894), and were composed from 1851 to 1856. Kurz's sketches of Indians, of which specimens are given, show a well-trained, artistically perfect taste in the delineation of Indian characteristic features. The tribes among whom Kurz (died in 1871) has sojourned were the Crees and all the Northern Missouri tribes of Siouan genealogy, and the vocabulary of some of these are subjoined.

DR. FREDERICH S. KRAUSS, while steadfastly pursuing his ethnographic studies on the Slavic nations of Austria and the circumjacent countries, has just published a treatise, "*Haarschurgodschaft bei den Suedslaven*," which appeared in Schmeltz's *Internationales Archiv für Ethnographie*, Leiden, 1894, Vol. II, and holds thirty-eight pages in large quarto. The queer-sounding, long German term for a widespread antique custom signifies "godfatherhood through hair-shearing," or as the Serbians have it: "shorn-hair sponsorship" (shishano kumstvo). According to Dr. Krauss, the singular custom arose from the idea that cutting one's hair and presenting it to a superior means partial or total surrender of oneself, and when the lives of war-captives were spared, their hair had to be offered to the deity or to the spirits of those who fell in battle. Bondsmen had to surrender a lock of hair as a sign of being tributaries to their "seignours". Later on it became a token of adoption into a family. Wherever the custom is still prevailing, it can be understood only as a remnant of the clan system formerly extending over all of Northern and Eastern Europe. At an early date it became also an ecclesiastic rite, though more in the Greek than in the Roman Catholic church, in the baptism of children. The oldest document referring to it is a *Guslar-song* of the second half of the fifteenth century, which extols the warlike exploits of the Slavonic hero Grujos Novakovitch. Krauss succeeded in gathering the text of it from some old popular troubadours, and with two other similar texts from the eighteenth century published it with a metrical translation in German. These texts are highly poetical and rather extensive; they cover not less than seventeen closely-printed pages.

DR. FRANZ BOAS has favored us with the transmission of several new articles from his pen, all of which are enriching ethnologic science in a singular degree. One of them is an extensive vocabulary of the Cumberland dialect of Eskimo, collected in 1883 and 1884 by the author on his fourteen-month travel in Baffin Land. This dialect is spoken on Cumberland Sound and on the western coast of Baffin Bay; it approximates more closely to the language of Labrador than to that of Greenland, and the same may be said of the customs and manners of the tribes inhabiting these lonesome tracts of country. The definitions are German, and the title is, "Der Eskimo Dialect des Cumberland-Sundes, von Franz Boas." First fascicle. Wien, 1894. Quarto. The work was printed by the Anthropologic Society of Vienna, and is contained in the fourteenth volume of the *new* series, pages 97 to 114. Many of the terms are illustrated by parallel forms from the Labrador (L) and Greenland (G) dialect, and the whole amounts to over one thousand words.—Follows the address before the section of Anthropology at the Brooklyn meeting of the American Association for the Advancement of Science, delivered by Dr. Boas, as vice-president of Section II, August, 1894. The subject is, "Human faculty as Determined by Race." His remarks, condensed in the narrow compass of twenty-nine pages, illustrate, among other things, the fact that the intellectual faculties of the

white race differ only in degree from those of the less favored races, and not in kind, and that there is no reason to suppose that they are unable to reach the level of civilization represented by the bulk of our own people.

Two weighty articles of Boas are printed in the "Memoirs of the International Congress of Anthropology," held in Chicago, 1893 (Schulte Publishing Co.): "Physical Anthropology. The Anthropology of the North American Indian" (pp. 13), and "Classification of the Languages of the North Pacific Coast (of America)" (p. 8). Dr. Boas has, for many years, been at work as a specialist on the anthropometry and somatology of the North American races, and his results as published here and in the "Address" are striking for their importance, acumen and novelty. They are placing our knowledge of the Northwestern Indian on a new and more solid basis. In his classification of the northwestern languages he agrees with many of the results published before him, but is willing to unite Tlingit and Haida into one stock, perhaps both akin to Athapaskan. The Aht or Nootka has to be classed with Kwakiutl. Boas' remarks on the structure of all these languages are of decided merit.

ZELIA NUTTALL'S "Note on the Ancient Mexican Calendar System," which she communicated to the Tenth International Congress of Americanists in Stockholm (1894), has now been printed in the Transactions of the Congress, and embraces thirty-six octavo pages. The lady had presented her views on that topic to several anthropological societies in the East of the United States during her travels in 1893, and some of her results, which somewhat differ from those of other investigators, are laid down in the following sentences: (P. 28) "The religious festival periods of the Mexican year must not be confounded, as heretofore, with the eighteen so-called "months" of the civil solar year. Each of the latter were headed by a day of enforced rest and contained set market-days, at intervals of five days." "The religious festival periods were partly moveable and partly ruled by the central ritual year contained in each solar year. In three well-authenticated instances the beginning of a festival period is shown to have coincided with the first day of one of the thirteen periods of twenty days contained in the ritual year." (P. 35) "The Mexican solar year began with the vernal equinox; the native calendar system attempted to bring into accord the apparent movements of the sun, the moon and planet Venus."

MR. HENRY CARNOY, professor at the Lycee Montaigne, and editor of "La Tradition," is preparing a cyclopedia of biography which will prove of singular interest to all ethnographers and students of cognate sciences. It is an "International Dictionary of the folklorists of our time," and particular stress is laid upon having the bibliographical part as complete as possible. The work will be published in the French language, by G. Colombier, No. 4 Rue Cassette, Paris. Folklorists of all countries and nations are invited to send biographic notices of their lives and literary works, to the length of about two columns, small folio, but they must become simultaneously subscribers to the "Dictionnaire" for the amount of twenty francs, or four dollars. Those wishing to see their likeness added to their biography, please add fifteen francs to the above, together with their photograph. The portraits will be produced also in "Tradition." What is before us looks quite attractive; there are notices on the works and achievements of M. Dragomanow, a Russian; of G. Georgeakis, a Greek; C. Avolio, a Sicilian; S. Prato, an Italian; A. Hock, a Belgian; I. Bernstein, from Podolia

and others, with their portraits, which are almost cabinet size. Contributors wishing to perpetuate their literary productions in this collection have to address them to Professor Henry Carnoy, Lycée Montaigne, 128 Boulevard Montparnasse, Paris, France. All moneys to be remitted to Mr. G. Colombier, address as above.

ZAPOTEC LANGUAGE.—A very voluminous dictionary of the Zapotec language, spoken by Indians of Oajaca, Southern Mexico, has been surrendered by the president of the Mexican States to the Junta Colombina of Mexico City, and published by them in a splendid folio volume. The dictionary has the Spanish term first and the Zapotec word or words second, and it is not known whether a vocabulary has ever been composed for it with the Zapotec term standing first. It is printed in two columns, and from an average calculation can not contain less than ten thousand Spanish terms, while the Zapotec terms are more numerous. The manuscript volume is a huge quarto volume, in two columns, and appears to be dating from the middle of the eighteenth century, has no preface nor title, and is bound in parchment. On its back we read: *Diccionario sapoteco del Balle*. Nothing in it indicates the name of its author, and it is a clean copy of an earlier manuscript. The orthography of the Spanish terms is not at all correct, and the Zapotec dialect of it differs from that of Cordoba's vocabulary. The arrangement of the phrases and sentences in the manuscript is so confuse that much additional work would be required to refund the volume entirely. The title is in full: *Vocabulario Castellano-Zapoteco. Publicado por la junta colombina de Mexico con motivo de la celebracion del cuarto centenario del descubrimiento de America.* Mexico: oficina tipografica de la Secretaria de fomento. Calle de San Andrés, Numero 15. 1893. pp. III and 222.

ARCHÆOLOGICAL NOTES.

MASTODON REMAINS.—A notice of the tribes of Siberia given in a review of a recent book is to the effect that one of the chief means of living is the gathering of mastodon bones. This suggests that the number of these monsters must be very great, and that there must have been some mighty convulsion or change, which has not yet been fully described, which imprisoned in the frozen mud so many of these denizens of the ancient fields and plains of that region.

ANOTHER CANARD has appeared and is gradually floating around among the newspapers, probably originating with that famous liar, Joe Mulhaton. This time the story is that in the caves of Nebraska many bones of extinct animals have been discovered, and associated with them the bones of man, possibly the bones of the forerunner of man. Many of the animals were mastodons, with ribs some twenty-eight feet in length. The writer does not tell the height of the cave nor the entire height of the animals, but we conclude his eyes, which saw "men as trees, walking," need to be touched again and another miracle wrought, so that he can see things which are a little more reasonable and natural.

ANOTHER MASTODON has been found near Dunkirk, in New York State. The head is in good preservation, and was about five feet across. The

tusks are also about five feet long. One tooth weighed four pounds, and was seven inches long by four broad.

THE MASTODON BONES found in Cincinnati are well authenticated.

ANTIQUITY OF LANGUAGES.—“We can trace back the languages of Egypt, of Babylonia, of India, of China, for a long distance beyond the occurrence of regular annals in those countries—back, in fact, to the stone age in each, and similarly with the mythology, and the result is that, instead of apparently reaching a common origin and common elements in them, the gap between them seems to get wider as we go back, until we have to confess that if there was a common fountain to the various streams it must have been at a period so remote that we have no materials at present by which to trace them to it. The men who wrote the Book of the Dead, those who wrote the epic of Sargon I., those who wrote the Vedas, and those who wrote the Chinese classics, if they were descended, as we believe, from common parents, must have been isolated from each other for a long period in order to become so differentiated at such early date.”—*Article by Sir Henry Howarth, Antiquary, September, 1894.*

THE PHILISTINES—The people called Krethi were perhaps identical with the Philistines. The Hebrew tradition is that these came from the Mediterranean islands. The parallel is observed between the tributary vases seen on Egyptian monuments and those on engraved gems, inasmuch as the dress, the peaked shoes and long hair represent the inhabitants of the island in Mycenaean times. There is a parallel in the pictographs of Crete and the earliest form of Phœnician letters which confirms the early Cretan colonization of the Assyrian coast.

GEOLOGISTS AND DELUGES.—Prof. W. J. Sollas has delivered a popular lecture in the institute of Clarendon Press, in which he takes the ground that the story of the deluge was based upon local floods, and refers to the fact that in Egypt, where the rise of the Nile is regular, there is no tradition of the flood, but the Chaldean story and the Greek story of Deucalion, Girdubar, were based upon calamitous overflowings of the Tigris, possibly caused by earthquakes or cyclones, which drove the waters of the Persian gulf up the Tigris. The identification of the Girdubar legend with that of Hercules shows that the Greeks borrowed the epic. The Egyptians had sun stories, but they were without that of Girdubar.

PROF. VIRCHOW'S BUSY LIFE.—Prof. Virchow is one of the most remarkable men of the century. He will be 73 years of age on the 13th of next October, and yet his physical, as well as his mental, activity seems to be untiring and limitless. He has just given an extraordinary proof of this. He recently attended the “Congress of Americanists” at Stockholm, the object of which was to give opportunity for an exchange of ideas on the antiquities and anthropology of the American continent, both north and south, and of course Professor Virchow, as the most distinguished European anthropologist of the present day, took a prominent part in the transactions. When they were concluded he started for Berlin, and arrived there early one morning a few days ago, after two days and three nights of constant travel by land and water. He delivered an address at a meeting of one of the scientific associations at Berlin, and at 5 o'clock the same evening took

his departure for Serajevo, the capital of Bosnia, where an archæological and anthropological congress was about to assemble. Serajevo is quite as far to the southward of Berlin as Stockholm is to the north, so that Professor Virchow really traveled for five or six successive days and nights, and bore the fatigues of the journey like a young man. He was the presiding officer of the congress, and was one of the most active and interested participants, not only in its discussions, but in its excursions to neighboring localities, in which some very instructive remains of ancient races have recently been unearthed. He is now on his return to Berlin, and has stopped for a day or two at Innsbruck to rest, as he understands the term; that is, in presiding over a joint meeting of the German and the Vienna Anthropological Societies.

THE COPPER AGE.—An account of the discoveries made at Tel-el-Hesi, the site of the ancient city of Lachish, gave rise in the British Association to a discussion on the probability of a copper age. Throughout the mound, from the bottom to the top, were found flint and metallic implements. Among them was a thick chisel, made of copper, which had been hardened by mixture with red oxide of copper. Toward the top of the mound were bronze arrow-heads, which dated back to 1400 and 1500 B. C., and a change was observed from copper to bronze and from bronze to iron. Sir John Evans spoke of the evidence of a copper age preceding a bronze age in America, Ireland and Hungary. Dr. Hildebrand said several implements of pure copper had been found in Sweden. Prof. Boyd Dawkins thought that the copper age in North America was aside of the neolithic age.

ASTRONOMY AMONG THE INCAS.—There are proofs that the Incas had a real system of astronomy. Six nations only—China, Mongolia, India, Chalden, Egypt and Australia—had, upon the discovery, divided the celestial sphere into constellations. The Peruvians recognized a few of the more brilliant constellations—the Pleiades, Jaguar, the Standard, the Southern Cross. They called the Milky Way the “dust of stars.” They, in common with many other tribes farther north, such as the Zunis and Hopis imagined that the sun entered the sea at evening and passed under the earth, and twelve hours afterward appeared in the eastern horizon. The god himself was represented in sculpture, with his forehead surrounded by the royal fillet, in the midst of four fabulous animals moving around him.

THE late Prof. Eben Horsford was sure that he had identified the localities reached by the Norsemen, in the neighborhood of Charleston and Cambridge. A few excavations were conducted under his lead, and remains were discovered which were supposed to have been those of the houses occupied. Quite recently Mr. Gerard Fowke has been employed by Miss Horsford and has been engaged in excavating in the same localities, but with somewhat uncertain results.

BOOK REVIEWS.

The Iron Bearing Rocks of the Mesota Range in Minnesota. By J. Edward Spurr. Geological and Natural History Survey: N. H. Winchell, Geologist, Minneapolis. 1894.

The rocks of the iron-producing region are, in part, greenish schists, much metamorphosed, but originally derived from slates, quartzites, graywackes, etc., brought to resemble one another by dynamic forces. The evolution of the rocks has been studied under the microscope by taking parts in localities in small areas. By this means the scheme of development from one type to another has been determined and the whole process of the changes which have occurred in the iron-bearing range is made known. It is held that the rock could not have been an argillaceous sediment.

Notes on the Ancient Mexican Calendar System. By Zelia Nutall. Communicated to the Tenth International Congress of Americanists, Stockholm. 1894.

Mrs. Nutall has given the most satisfactory account of the Mexican calendar system that has ever been published, and what is more she gives it in a manner that can be understood. The following are the positions she takes and the conclusions she has reached: (1.) There was a great epoch, 1040 years, which contained twenty cycles of fifty-two years, each of which began with a year and a day numbered Tacatl. (2.) There was a solar year, which was divided into eighteen months of twenty days each, but which had in its center a ritual year called the kernel of the solar year, the months of the ritual year being numbered in thirteens, making 260 days. The name of the solar year was taken from the name of the first day of the ritual year. The ritual year, with its thirteen periods, which occupied the center, was movable, as the ritual year in the English prayer-book, but was adjusted to the solar year, and many of the feasts had regard to the operations of nature in the solar year. The division of the ritual year into thirteen days may be traced to natural causes, as much as the divisions of the solar year are. They reckoned the year from the equinox in March, when the sun cast a straight shadow, for the sun was the chief factor in regulating the calendar, but they rectified retrogressions at the end of fifty-two years by adding thirteen days. (3.) The divisions of the year arose from the custom of dedicating to each deity a period of twenty days, e. g., the day Tacatl was dedicated to Quetzacoatl; the day Tecatl to Huitzilopochtli, the war god. There were eighteen such periods, each period beginning with a period of enforced rest. (4.) Certain constellations, and conjunctions of the planets with the sun and moon, were noticed and had an influence at the feasts. These were taken as the sign of the advent of the god during the festival. The slow ascent of the sun in its course was dramatized by the captive, who slowly ascended the flight of steps of the Teocalli and found his way to the sacrificial stone, making long delays, but he mounted the sacrificial stone at noon precisely. (5.) The regular rotation of the com-

munal market, which took place every five days, was the regular beat of a giant heart, which, with the enforced rest of every twenty days, made the calendar the powerful factor in the social and religious life, the first coming from a civil enactment, the last, a ritual. The opinion is advanced that market days followed the order of the element symbols, as aquatic plants were sold on Acatl days, mineral on Tecpatl, house articles on Calli days, animals on Tochtl days. (7.) The seasons were named after certain elements, whose symbols were always prominent, and a god presided over the elements. (8.) The entire population of Mexico was subdivided into twenty custs or kinships, grouped under four heads, identified by certain day signs, different branches of industry being followed by these custs. By this means a thorough control of all human activity, divided into trades, and of all the products of the land on the certain market days, was secured and regulated by the calendar.

Nebraska Historical Society. Proceedings and Collections. Published Quarterly. Vol. I, Second Series.

This is a little journal of sixty-four pages, and contains ten papers—one by Mr. John A. McMurphy on the "Making of a Great State;" the second, the "Life of Governor Burt," by Clyde B. Atchison;" the third, "Reminiscences of Early Days," by B. J. Johnson. It is unfortunate that the external appearance of the initial number should be so faulty, and yet the hope is that the journal will improve in this, and that the interest in the early history of the state will be increased by it, and that the result will be a large increase of matter in the way of books, documents and historical data. We notice a few allusions to the aborigines of the state, and notice one rather remarkable statement. Mr. McMurphy says: "The Indians have been divided respectively into fishing and hunting tribes or the corn or crop-growing tribes, or by another authority by the canoe and boat Indians of the east and the horse-riding Indians of the plains." The same writer finds fault, and justly, with the barbarous spelling of Indian words which has been adopted by some of the members of the Ethnological Bureau. He says: "The Indian for pony is 'Shonga.' I spell it 'Shonga.' What is the use of putting in consonants until the word looks like this: T-z-s-c-h-o-n-ga-a-h. No human tongue can pronounce it that way, not even one of Lamar's anthropoids." The subjects to which the quarterly will be devoted are enumerated as follows: Freight Overland Travel before 1868; Indian Tribes, Indian Chiefs and Noted Warriors; Indian Wars; Special Settlements; Founding of Academies and Colleges; Local Incidents; Civil War History; Explanation of Names of Cities, Rivers and Counties. The last subject is exceedingly important, and should be carefully treated and that promptly.

Scarabs. The History, Manufacture and Symbolism of the Scarabæus, etc. By Isaac Myer, LL.B. New York: Edwin F. Dayton. Pp. 177.

Few symbols are more prominent in the art of ancient Egypt than the beetle, and the interpretation of its significance has occupied not a few students. In the volume before us the author presents us with the results of his long and close investigation of the question, based upon a careful collation of sources as well as extended observations of the objects themselves. After discussing the entomology of the insect a number of interest-

ing particulars are furnished of the methods of manufacture of its similitudes in stone, the engraving of inscriptions upon them, and the date of the oldest yet discovered. This leads to a discussion of the use of the emblem in the sacred rites, especially those connected with the interment of the dead. The conclusion reached is that the scarab in the Egyptian symbolism represented the belief in a life hereafter and a resurrection of the soul. Later chapters deal with the scarab as a symbol among the Phœnicians, Etruscans, Greeks and Romans, and with the forgery of scarabs in modern times, which appears to be carried on so skillfully that even expert antiquaries are at times deceived.

D. G. B.

History of the Scandinavians and Biographies. Vol. I. By O. N. Nelson. Minneapolis, Minn. 1893.

This book is edited by O. N. Nelson, but is made up of contributions from various writers, some of which have already been published in the Scandinavian papers. It contains a sketch of the Icelandic discoveries, the first Swedish settlement in America and the first Norwegian immigration; an account of a Swedish colony in Illinois, also an account of the Scandinavian regiment, a historical review of the different churches—Lutheran, Baptist, Methodist and Evangelical mission, biographies of Scandinavians in Minnesota, with portraits. It is a book which brings to mind the advent of the Scandinavians at widely separated intervals, the first appearance being about 1000, the last heavy installment beginning about 1800, the interval having been filled by immigration from other nationalities from the west of Europe, such as the English, French and Spanish. The colonies from Scandinavia were mainly in the interior—Wisconsin and Minnesota—where the mingling of the Scandinavian blood with that of the previous population has been easy and rapid, and their greatest commendation is that they have so thoroughly adopted our American customs and ways, and have become so patriotic and loyal citizens. There are no anarchists among the Scandinavians. Anarchy would not consort with their previous history or training.

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**ORIGIN OF THE INDIANS—THE POLYNESIAN
ROUTE.**

BY JAMES WICKERSHAM.

In the January number of *THE ANTIQUARIAN* Professor Cyrus Thomas begins a series of very interesting articles on the origin of the American tribes, and in which he very learnedly supports the theory that they came to America over the Polynesian islands. He finds a wide difference between the Pacific coast tribes and those inhabiting the region west of the Rocky mountains; he includes in the Pacific coast type all that ocean fringe population from Alaska to Nicaragua (except, perhaps, in California) and including the semi-civilized Aztecs and Central Americans. The theory seems to be that the Pacific coast type is Polynesian and the eastern tribes of America are of a different origin. He then presents a comparative view of the customs, traditions, languages and physical appearance of the Pacific coast type with those of the South Sea Islanders, and upon this side-by-side examination concludes that they are of the same stock or type of man; that the New Zealander and the tribes of the Pacific coast of America are brothers; that America was peopled by these South Sea Islanders; that the evidence of this fact exists in the similarity of these customs, traditions, languages and physical appearances. He presents as proof of his theory the similarities pointed out by Niblack between the Maoris of New Zealand and the Haidas of our own coast; altogether he presents proof quite sufficient to establish one point in his argument, viz.: the relationship between the Pacific coast type and the New Zealander and other tribes of Polynesia. But does the fact of relationship, even when admitted, prove the course of migration?

Suppose they do look alike, talk alike, and repeat the same traditions; grant that they are related and belong to the same

stock or type of man; admit that they sprang from the same common ancestor, and that they are brothers; how does that prove that the ancestors of our American tribes came from Asia over the Polynesian islands? I grant the truth of all the evidence presented in support of the relationship between these widely separated tribes; Niblack failed only in not finding many more points of resemblance between the tribes of the northwest coast and of New Zealand; but I deny the correctness of the conclusion reached by Professor Thomas. I deny that America was peopled from Asia by way of the Pacific islands.

The Pacific ocean covers nearly one-half the earth's surface; from the Malay peninsula to the west coast of South America, on the line of the equator, is 180 degrees, or exactly one-half the greatest circumference of the globe. Across this wide waste of unknown seas we are told that the Asiatic Mongoloid paddled his canoe, without compass or chart, from island to island, until crossing the 12,500 miles he rested upon and inhabited the continents of America. These island resting places are mere specks in this vast ocean, from 100 to 2,000 miles apart. He was forced to make voyages, from land to land, greater than that from Ireland to New Foundland; greater than from Africa to the coast of South America. If, without compass, he missed his small island resting places he could only continue eastward until by accident he should find another. A voyage, say of 2,000 miles, in a canoe must certainly take not less than 100 days, and provisions and water for this time must be carried; a canoe would not be sufficient. When all the difficulties of such a voyage are considered, the voyage of discovery performed by Columbus fades into insignificance when compared with it. From Easter island to the nearest point on the Chilean coast is 2,030 nautical miles; from Easter island to the next nearest island westward inhabited by South Sea natives is 1,500 nautical miles; Easter island is thirteen miles long. From Honolulu to San Francisco is 2,080 nautical miles; consider a canoe voyage from either Easter or Hawaiian islands, without compass or chart, against both wind and current, by an Indian in a canoe!

Then how may we account for the apparent relationship between the New Zealander and the Haidah of our own shores? How explain the existence of the same type of people in America and on the widely-separated, far-away Pacific islands? If the admitted relationship and facts do not prove Prof. Thomas' theory, what do they prove?

There is no doubt that many of the nearer and larger of the Pacific islands were peopled from Asia, for the black population had over-run New Zealand. It is quite probable that this migration eastward from Asia had thrown the Papuan race upon the shores of Australia, New Zealand and the Fiji islands; that the islands of Micronesia were inhabited from Asia may also be admitted; it is quite probable, however, that these were

mixed with that race which farther east is called the Polynesian; but that Polynesia was inhabited from Asia, or that America received any part of her population from Polynesia, is not believed to be true. Why is it that the Papuan race, which inhabited New Zealand before the Polynesian, had not reached America? All the islands of Polynesia were inhabited by a copper-colored race nearly akin to the Indians of America, and very likely the Japanese; between them and the coasts of Asia existed the Papuan and the Micronesians; why did not the Polynesians inhabit the larger islands of Australia, New Guinea, Borneo and the Philippines? Because they did not come eastward from Asia, but reached Polynesia from the far or eastern side.

The great ocean currents of the equatorial Pacific flow from east to west, from the shores of America to the shores of Asia. The drift of the Pacific in the region of the alleged Polynesian route is westward; the prevailing winds are in the same direction; no eastward vessel in this region has ever taken but one course—toward the shores of Asia. It is only by design that man could have crossed from Asia to America in this wide sea region, and the existing well-known natural conditions of wind and current must be changed before we can conceive of such a voyage being performed, even from one island home to another. Not one iota of evidence has ever been produced to prove one such voyage; no record of one such exists; neither by accident nor design has an instance occurred whereby a Polynesian has been involuntarily or otherwise thrown upon the American coast. The Polynesian theory exists without any evidence to support it.

The northern equatorial current of the Pacific takes its rise off the coast of Lower California, and joining force with the great Humboldt current from up the west coast of South America, flows in a broad, resistless equatorial flood half around the world, until striking the shores of Asia it divides, one branch being driven northward past the green hills of Japan, off which it receives the ancient Japanese name "Kuro-schiwo," or "black stream." Thence flowing eastward just south of the Aleutian islands until it reaches the coasts of America, it sweeps southward past the fir-clad hills of Washington and Oregon to join the equatorial current again off the coasts of California—a majestic ocean current on its never ceasing half world circuit. It is to this warm ocean river that we are to look for the explanation of the relationship between the New Zealander and the Haida of our Northwest coast. It is this great highway we must examine for evidences of migration. Here is offered at least a reasonable probability of a route of travel; here is a means by which, without compass or volition on the part of man, the smallest islands of the broad Pacific may have been populated. It were only necessary for the voyager to preserve

life, and, without effort, in this broad, majestic and resistless current he will be swept from either the shores of Asia or the coasts of America, westward across the Pacific, and thrown on the shores of these small equatorial islands, and if none intervene may even be carried again to Asia or back again to America. This great wheel current of the North Pacific is the route traveled by castaways from Asiatic and American shores; on its outer rim around this great circuit is found the same type of man—the Japanese, the Haida, and the Polynesian. This current is the migration route over which the Mongolian tribes of Asia may have reached America and the islands of the Pacific. Is there any evidence that such an instance ever occurred—is there proof of this theory?

First, however, let us understand that there is a probable unity of blood between the tribes inhabiting the Pacific islands of Polynesia. "No writer, probably, is entitled to more weight in his views of the identity and the heterogeneity of the oceanic races than Mr. Ellis, who has spent many years of a useful life among the groups of the Pacific, noting intelligently and investigating patiently their history, traditions, languages and relationship to each other. He authoritatively states, from his own observations, that the natives of Chatham Island and New Zealand in the south, the Sandwich Islands in the north, the Friendly Islands in the west, and all the intermediate islands, as far as Easter Island in the east, *are one people*. Their mythology, traditions, manners and customs, language, and physical appearances, in their main features, are, as far as we had an opportunity of becoming acquainted with them, identically the same, yet differing in many respects from those of the islands to the westward of Tongabatie." *Missionary Voyage*, 410.

"This grouping, though extensive, stretching through seventy degrees of latitude and seventy degrees of longitude, is still comprised in the western hemisphere, with the exception of New Zealand; and we presume in these island-peoples a homogeneity of race, and also, though with less pronounced characteristics, *an identity with the red and copper-colored inhabitants of the American continent*." "Hawaii," Mary Hopkins, p. 63.

"The New Zealander and Hawaiian," says Mr. Jarvis, who resided four years in the Sandwich Islands, "though more than four thousand miles apart, with all the intermediate tribes, are members of one family, and require but a short period to acquire the faculty of a free exchange of ideas." *Idem*, p. 75.

It seems, now, to be conceded that these people are to be classed as Oceanic Mongolidae, and have marked characteristics in common with the natives of eastern Asia and western America. Professor Thomas bringing them directly from the coast of Asia, step by step, across the small and distant islands. All this, except the direction of the migration, being conceded, there arises another preliminary question, viz: When did this

migration take place—in ancient or modern times? There is nothing about the population, or the archaeological remains upon these islands, to indicate a long continued residence of these copper-colored inhabitants; on the contrary, their traditions, language, customs and archaeology, show them to have been comparatively recent occupants, and in some instances so recent that historic dates can approximately be determined. It is believed that the New Zealanders reached their present home in the fifteenth century, and, after massacring the Papuan population found there, took possession of the island. The New Zealanders were Tahitians, so they say, and came from the northeast. "Greater Britain," Dilke, p. 293.

It is true that remains of stone images and other permanent archaeological evidences exist on some of the islands, but none of these conflict in anywise with the facts hereinafter set out, or prove that the builders came from the west rather than via the north Pacific current; neither do they prove in any degree, but rather the reverse, that America was settled from Polynesia. These permanent remains are not of a high order, and not of that magnitude or extent to justify the conclusion of a long continued residence by a civilized people. There is not the slightest proof that the civilization of Mexico, Central America or Peru came from these South Sea islands; the higher type of remains on Easter Island is related to the ancient civilization of the Celebes, and not to anything in America.—*Brinton, Science* of March 9, 1894.

Conceding, then, the close relationship between the tribes of eastern Asia, western America and Polynesia, what was the course of migration across the South Sea? Was Oceanica peopled from Asia? Was America peopled from Oceanica? No safe deductions can be reached from a comparison of languages, habits, traditions, religion or physical appearances. By these evidences we cannot determine whether America was peopled from Oceanica, or Oceanica from America; we can, of course, arrive at the safe conclusion of relationship between the races inhabiting the two regions, but which was the original home? Are there not facts, however, rather than theories, upon which to base a conclusion, and if so what are they? What is the evidence upon which to base a judgment?

. . .

The first fact, and the important one, too, is the existence of the northern equatorial current forever bathing the shores of the islands of Oceanica with its westward flow. This and the "Kuro-shiwo," or "black stream" of the Japanese, make a great wheel current in the North Pacific ocean, upon the outer circumference of which are scattered the wrecks of eastern Asia and western America. This endless ocean river bathes

the shores of Asia, America and the Polynesian islands with its warm waters; it carries the drift of Asia to America, and the accumulation of Asia and America to the islands of the mid-Pacific. This unique current of the world's greatest ocean is the explanation of the similarity between the people of Asia, America and Oceanica; it has for countless centuries cast the drifting east-Asian not only on the coasts of America, but, missing that, upon the islands of the Pacific. On the outer rim of this great circling current is found the same type of man, inhabiting the far distant regions of Japan, Southern Alaska to Oregon, Hawaii, New Zealand and the many small islands of Polynesia. This wide distribution of the same type of man was accomplished by this never-ending, ever-flowing, revolving ocean current.

Of the possible thousands of wrecks cast upon the shores of America and the islands of the equatorial Pacific prior to 1492 we can know nothing; but since that date, and especially since the beginning of the seventeenth century, sufficient evidence has been preserved upon which to base an estimate of what must have happened ever since Asia has been inhabited by a sea-faring people.

Seven castaway Japanese vessels have been thrown upon the Aleutian islands since the beginning of the seventeenth century. "In July, 1871, the old chieftain Atter Island, aged 70 years, reported that three Japanese junks had been lost upon the surrounding islets during his recollection, besides one stranded not far from the harbor of that island in 1862." In 1782 a Japanese junk was wrecked upon the Aleutian islands, from which the survivors were taken in one of the Russian-American company's vessels to Kamtschatka and thence returned to their native island. In 1805 a junk was wrecked upon the coast of Alaska, near Sitka, and the crew was quartered on Japonski Island, and afterwards returned by the Russians to Japan. Another of these wrecks was cast upon Queen Charlotte's Island, and two upon Vancouver's Island. In 1833 another was thrown ashore at Cape Flattery, and the crew was rescued from slavery among the Makahs and returned to Japan by the Hudson Bay Company. Another vessel loaded with beeswax was thrown ashore near the mouth of the Columbia river, where the crew was captured by and amalgamated with the Indians. Several floating but abandoned wrecks have been sighted off the coasts of California, while three were thrown ashore on Lower California and two in Mexico. "In 1845 the United States frigate *St. Louis* took from Mexico to Ningpo, in China, three shipwrecked Japanese, being survivors of the crew of a junk which had drifted from the coast of Japan, entirely across the Pacific ocean and finally stranded on the coast of Mexico, where they remained two years." For ages last past the shores of America, from the Aleutian islands to Mex-

ico, as well as the Pacific islands, have been strewn with wrecks from Asia carrying human freight. "In 23 cases where the actual number on board was named, they aggregated 293 persons, an average of $12\frac{3}{4}$ persons to a junk—ranging from 3 to 35 in individual cases. Where definite statistics of the saved are given, we find 222 persons saved in 33 cases; an average of $6\frac{3}{4}$ persons in each disaster. On eight occasions three persons were rescued; in four cases, one person; and on four other cases, four persons; three times, eleven were saved; and twice each, 5, 12, 15, 17; and once each, 2, 6, 7, 9, 10, 13 were saved. . . . Fifteen vessels mention having drifted helplessly at sea an aggregate of 1061 months, averaging a little over seven months each." "Japanese Wrecks," Brooks, 1876.

The above facts sufficiently prove the probability of peopling America from Asia via the "Kuro-shiwo," or "black stream," of Japan, yet singularly enough the author of the above paper, which was read before the California Academy of Science in March, 1875, in a later paper read before the same society in May, 1876, used these and additional facts to prove that Asia, and incidentally Polynesia, too, was peopled from America, via the equatorial current of the Pacific. "Origin of the Chinese Race," Brooks, 1876.

In this last paper, Mr. Brooks shows how easy it would be for vessels leaving the coast of Peru, or even Central America, taking advantage of both wind and current, to reach the continent of Asia, and says: "While we have cited facts showing it is reasonable to suppose that early Peruvians or Central Americans may have come to China by the aid of continual fair winds, it is less necessary to show the almost insurmountable difficulties which exist during a greater part of the year to impede their return by sea. To beat back against strong trade winds and the long regular seas of the Pacific would be a task in which they would surpass our best modern clippers, which now can only make the voyage by running far north and crossing from Japan to the coast of California, upon the arc of a great circle, and sailing thence southerly, close hauled on the wind, to the neighborhood of Tahiti in the South Pacific, which must then be crossed in an easterly direction, south of the trade winds, which in turn enable them to make northing and reach the coast of Peru. Such a return voyage would require the most skillful knowledge of winds, coasts and scientific navigation, such as we have possessed in comparatively recent times, and would also require exceeding strong and weatherly vessels. There seems, therefore, less likelihood that any Chinese ever reached Peru in pre-historic times by such a route."

. . .

Sir Edward Belcher gives a very full record of the landing of a castaway Japanese junk on the Sandwich Islands, in his

stock or type of man; admit that they sprang from the same common ancestor, and that they are brothers; how does that prove that the ancestors of our American tribes came from Asia over the Polynesian islands? I grant the truth of all the evidence presented in support of the relationship between these widely separated tribes; Niblack failed only in not finding many more points of resemblance between the tribes of the northwest coast and of New Zealand; but I deny the correctness of the conclusion reached by Professor Thomas. I deny that America was peopled from Asia by way of the Pacific islands.

The Pacific ocean covers nearly one-half the earth's surface; from the Malay peninsula to the west coast of South America, on the line of the equator, is 180 degrees, or exactly one-half the greatest circumference of the globe. Across this wide waste of unknown seas we are told that the Asiatic Mongoloid paddled his canoe, without compass or chart, from island to island, until crossing the 12,500 miles he rested upon and inhabited the continents of America. These island resting places are mere specks in this vast ocean, from 100 to 2,000 miles apart. He was forced to make voyages, from land to land, greater than that from Ireland to New Foundland; greater than from Africa to the coast of South America. If, without compass, he missed his small island resting places he could only continue eastward until by accident he should find another. A voyage, say of 2,000 miles, in a canoe must certainly take not less than 100 days, and provisions and water for this time must be carried; a canoe would not be sufficient. When all the difficulties of such a voyage are considered, the voyage of discovery performed by Columbus fades into insignificance when compared with it. From Easter island to the nearest point on the Chilean coast is 2,030 nautical miles; from Easter island to the next nearest island westward inhabited by South Sea natives is 1,500 nautical miles; Easter island is thirteen miles long. From Honolulu to San Francisco is 2,080 nautical miles; consider a canoe voyage from either Easter or Hawaiian islands, without compass or chart, against both wind and current, by an Indian in a canoe!

Then how may we account for the apparent relationship between the New Zealander and the Haidah of our own shores? How explain the existence of the same type of people in America and on the widely-separated, far-away Pacific islands? If the admitted relationship and facts do not prove Prof. Thomas' theory, what do they prove?

There is no doubt that many of the nearer and larger of the Pacific islands were peopled from Asia, for the black population had over-run New Zealand. It is quite probable that this migration eastward from Asia had thrown the Papuan race upon the shores of Australia, New Zealand and the Fiji islands; that the islands of Micronesia were inhabited from Asia may also be admitted; it is quite probable, however, that these were

mixed with that race which farther east is called the Polynesian; but that Polynesia was inhabited from Asia, or that America received any part of her population from Polynesia, is not believed to be true. Why is it that the Papuan race, which inhabited New Zealand before the Polynesian, had not reached America? All the islands of Polynesia were inhabited by a copper-colored race nearly akin to the Indians of America, and very likely the Japanese; between them and the coasts of Asia existed the Papuan and the Micronesians; why did not the Polynesians inhabit the larger islands of Australia, New Guinea, Borneo and the Philippines? Because they did not come eastward from Asia, but reached Polynesia from the far or eastern side.

The great ocean currents of the equatorial Pacific flow from east to west, from the shores of America to the shores of Asia. The drift of the Pacific in the region of the alleged Polynesian route is westward; the prevailing winds are in the same direction; no castaway vessel in this region has ever taken but one course toward the shores of Asia. It is only by design that man could have crossed from Asia to America in this wide sea region, and the existing well-known natural conditions of wind and current must be changed before we can conceive of such a voyage being performed, even from one island home to another. Not one iota of evidence has ever been produced to prove one such voyage; no record of one such exists; neither by accident nor design has an instance occurred whereby a Polynesian has been involuntarily or otherwise thrown upon the American coast. The Polynesian theory exists without any evidence to support it.

The northern equatorial current of the Pacific takes its rise off the coast of Lower California, and joining force with the great Humboldt current from up the west coast of South America, flows in a broad, resistless equatorial flood half around the world, until striking the shores of Asia it divides, one branch being driven northward past the green hills of Japan, off which it receives the ancient Japanese name "Kuro-schiwo," or "black stream." Thence flowing eastward just south of the Aleutian islands until it reaches the coasts of America, it sweeps southward past the fir-clad hills of Washington and Oregon to join the equatorial current again off the coasts of California—a majestic ocean current on its never ceasing half world circuit. It is to this warm ocean river that we are to look for the explanation of the relationship between the New Zealander and the Haida of our Northwest coast. It is this great highway we must examine for evidences of migration. Here is offered at least a reasonable probability of a route of travel; here is a means by which, without compass or volition on the part of man, the smallest islands of the broad Pacific may have been populated. It were only necessary for the voyager to preserve

Nuuhihoa and Tahuata, two of the Marquesan Islands; Opolu and Savaii, belonging to the Samoan group; and Tahiti, with others in that neighborhood, frequently occur, besides the names of headlands and towns in these islands. These songs also make allusions to voyages from Oahu and Kauai to islands far west."—"Hawaii," Hopkins, p. 81.

We know that the Hawaiians went to Tahiti; the New Zealanders were emigrants from Tahiti; the conclusion seems to be fair that far-distant New Zealand was peopled by castaways from Asia, via, the "Kuro-shiwo" and Hawaii.

While the records, traditions, songs and history give many instances of migrations westward, in Polynesia none are mentioned toward the rising sun. Every tradition goes with the ocean drift—westward; the migrations go west and south, but never to the east. There is not a single known exception to this rule.

"If the march of mankind was towards the east, and they had already swarmed downwards and peopled the upper continent of America, there would indeed be no difficulty in the supposition that from the western shores men had taken another departure and reached the nearest of the islands of the Pacific. For the trade winds blow steadily from the northeast during nine months of the year, and cattle have been conveyed in an open boat from the Californian coast to the Hawaiian islands, which can be reached in a few days. So that either accident or a desire to make maritime discoveries, might have thrown upon the shores of Hawaii the crew of a lost canoe or a more organized band of emigrants."

. . .

"Ellis, however, and his missionary associates, never heard of a canoe voyage made to the eastward, though they knew instances of canoes being out two or three weeks at sea, and arriving at places 500 or 600 miles in direct distance from their starting point."—"Hawaii" Hopkins, pp. 65-6.

"Ellis' assertion has been already quoted, that of many stray canoes reaching Tahiti from eastern, unknown islands, the voyages have always been in a westerly direction; the missionaries never heard of one towards the sunrise. Beechey says: "All have agreed as to the manner in which these migrations between the islands have been effected, and some few instances have actually been met with; but they have been in one direction only, and have rather favored the opinion of migration from the eastward." (*Narrative of a Voyage*, Vol. I, p. 252.)

"Hawaii" Hopkins, p. 72.

The Humboldt current, a broad ocean stream, springs from the Antarctic region, and pours its cold waters northward off the west coast of South America, until in the neighborhood of the equator it turns westward and becomes a part of the im-

mense equatorial belt of waters flowing ever westward, and pouring between the Polynesian Islands toward the shores of Asia. "A dozen of the crew of the clipper ship "*Golden Light*," burned in the South Pacific about 1865, just west of Cape Horn, reached Hawaii in eighty-one days, in a whale boat under sail, and would have run upon a reef at Leopahoihoi, but for natives who swam off to rescue these exhausted people, all of whom survived." "Origin of Chinese Race," Brooks, 1876.

. . .

A castaway from Easter Island, or the west coast of South America, would have been certainly thrown into the equatorial current, and drifted westward into Polynesia, while owing to the Japan current, natives from the west coast of North America, or the Sandwich Islands, would have been carried in the same direction. It is nearly impossible, certainly improbable, for natives from either Easter Island or Hawaii to reach the American coasts, except by design. No such a design has been shown, and no such a fact has been known. No instance is on record of such a voyage by a Polynesian. No fact exists upon which to base such a claim. From Easter or Hawaiian Islands to the American coasts is about the same distance as from Ireland to New Foundland; about the same obstacles of wind and current prevent the voyages, then why claim so much more for the naked Polynesian in his light canoe, then can be accorded to the hardy Norse viking in his many oared great war vessel.

I challenge Professor Thomas to present one fact in support of his Polynesia theory; one instance in which the voyage from Polynesia to America was successfully made; one castaway from Easter or Hawaiian Islands thrown on American shores; one voyage to these continents from the Pacific Isles by natives, either by accident or design; or one tradition, custom, habit or language preserving proof of such a fact. The North Pacific current is the migration route over which that grandest of races, the Mongolian, sent out, either by accident or design, its people to occupy the continents of America; over this same route the islands of the Pacific were inhabited; viewed in the light of facts these matters seem almost self-evident and scarcely admit of contradiction.

Tacoma, May 5th, 1894.

ON CERTAIN MORPHOLOGIC TRAITS OF AMERICAN LANGUAGES.

BY DANIEL G. BRINTON, M. D., LL.D., D.S.C.*

The faculty of speech, the power to convey thoughts by articulate and intelligible sounds, is the most pregnant product of the psychical nature of man. For that reason the study of language ranks among the first of the anthropologic sciences.

Its most apparent value is as a means of classifying tribes and peoples, grouping them under linguistic stocks, and from this deducing consanguinity, descent and intermixture. This "genealogic" study of languages, as it has been called, is, however, not that which offers the most valuable results. A given language or dialect reflects not merely the general mode of expression of the human species, but particularly that of the tribe or people who speak it. It reveals their way of looking at things, the reach of their thoughts, the accuracy of their perceptions, their capacity for grasping the true and the beautiful in the world around them, in other words, all that makes up their ethnic psychology.

There is a fixed relation between the idiom and the ideas of a people. They sink or rise together. As a little-known but thoughtful French writer, de Sénancourt, expressed it early in this century: "*La langue, et l'esprit du peuple qui la parle, s'avancent de concert.*"

Like other faculties, language stands in direct relation to organism, that is to complexity of brain-structure, especially to the third frontal convolution, to the efferent nerves, to the tongue and the vocal chords. For that reason, it is proper to study it as an organism itself, subject to the same laws as other products of organization. This point is so constantly misunderstood and overlooked by merely academic linguists, that I must expand it a little.

Like other organized entities, each language is a link in an endless chain. Each link is complete in itself, yet always mobile, changeful, trending toward higher or lower forms, the highest carries traces of its kinship with the lowest; the lowest may have faculties unequalled by the highest, in each, the laws of progressive and retrogressive transformation are forever active, by imperceptible gradations we pass from one to the other, only by general averages can we measure the relative values of those

* *Journal of the American Anthropological Association*, Vol. 1, No. 2, Aug. 1904.

nearly related. All this is what we find everywhere in the organic world. The bird is but a development of the reptile, the man of the brute. In many faculties and senses the brute is superior to the man, the reptile to the bird; but only singular ignorance or perversity could question which is the higher in the scale.

On the other hand, language must not be regarded as a passive product of the human intellect, a mere tool or convenient invention. So far from that, it is a powerful agent in moulding the intellect, in stimulating or depressing it, in endowing it with wings with which to soar aloft, or in binding it with fetters and tethers to the material clods. Those peoples who are born to the modes of thought and expression enforced by some languages can never forge to the front in the struggle for supremacy; they are fatally handicapped in the race for the highest life.

This depends partly on the poverty of the lexicography of such languages, their lack of terms to express ideas and the difficulty of forming such; but much more on the manner with which the logical proposition as framed in the mind has to be put into sound, that is, into words and sentences. It is obvious that the language which permits the main idea, with its relations and modifications, to be expressed parallel to the sequence in which it arises in thought, without needless accessories, yet with all that are needed, is more stimulating than one which burdens the idea with extraneous suggestions, or leaves unexpressed those which are necessary.

The investigation of these fundamental traits of language belongs to the science of linguistic morphology; and it is to some aspects of this, as applied to American tongues, to which I would now ask your attention.

The first distinction between languages in their morphology is between those which have, and those which have not, true grammatical forms. Those which have such, express the relations of the elements of a sentence by sounds which are employed for this purpose only, and have no independent signification. They are purely grammatical elements, and are what are called inflections. Such are the Aryan and the Semitic languages. Not a single American, Mongolian or Polynesian language depends upon true inflections. They are, therefore, what are called "wordless" languages.

The devices by which such tongues make amends for the complete or partial absence of inflections are various. Some, like Burmese and Chinese, depend mainly on the position of the elements of the sentence with relation to each other; others attach affixes to the main stems, presenting thus an analogy to inflections, but differing from them because these affixes are independent stems, and lastly, others again aim to blend together some or all of the elements of the sentence and express them

as one united whole. This last mentioned process is called Incorporation, and by several eminent linguists, as Humboldt, Pott and Steinthal, it has been asserted to be the characteristic trait of American languages.

They have never claimed that it is peculiar to these tongues, or that it is their only mode of sentence-construction; on the contrary, Humboldt explicitly stated that traces of all forms of sentence-construction can be discovered in nearly every language of the world; and that it is only the decided preponderance of one or the other methods which the morphologist has to show.

It is nothing to the purpose, therefore, that opponents of this opinion point out traces of Incorporation in other idioms; or show that other methods are found in American languages. All that is not merely conceded by the morphologist; it is his avowed doctrine that such must be the case.

There is a great deal of ignorance among American and French writers as to what Incorporation really is, its aims, its methods and its results. For that reason, and because I concur with those who consider it the leading morphologic trait of the aboriginal tongues of this continent, I desire to define these features with precision.

Its aim, as I have already stated, is to blend together some or all of the elements of the sentence in one complex. Phonetically, this is accomplished by the processes of assimilation and amalgamation, which are the two degrees of the blending of sounds; and by those of agglutination and infixation, the latter of which may be considered the typical development of the incorporative process.

The principal grammatic procedures by which Incorporation is accomplished are as follows:

1. The expression of the idea Being, that is, the nominal, is subordinated to the expression of the idea of Action, that is, the verbal.

This is the cardinal principle of incorporative languages, and it finds its expressions in a variety of modes, some quite unexpected. Frequently and typically, the objective relation is contained within the verbal form, either directly, by inserting the object between the subject and the verb; or indirectly, by the insertion of a pronoun which stands in an appositive relation to the object expressed elsewhere.

Not less typical is where the temporal and modal arguments of the verb, one or both, precede a subject-prefix or follow a subject suffix. By such a process the subject itself is made a part of the action, limited by the ideas of time and manner which belong to the action alone, and thus loses its independent being.

What is very curious to observe is that this principle is persistently carried out in those languages which, strictly speaking, have no verb at all, as for instance, the Maya dialects. In these,

the idea of action is expressed by verbal nouns under possessive relations, and we perceive a tendency to a complete submergence of the agent in the action. The subject is grammatically isolated, an inseparable possessive pronoun doing duty for it. Thus, the phrase "I know the road," would have to be, "the road, my knowing;" or again, "the dog bites my cat," would be "my cat, the dog, his biting." In such an example we see the inseparable possessive prefix united to the substantive-object and followed by the substantive-subject, which is a verbal noun. Such a sentence, whether it coalesces or not into one phonetic complex, is built essentially on the incorporative plan, and it is a typical example of what is found in very many American languages.

2 The presence of inseparable pronouns and inseparable classifying particles in a language indicates the tendency to incorporative speech.

Both these are found in the vast majority of American languages. They are seen in the possessive prefixes of the terms for relationship, and in those for parts of the body, and in the suffixes to the numerals when counting particular classes of objects, and in many other connections. Inasmuch as they weld together ideas which in their nature are distinct, they are clear expressions of the tendency to incorporation of sentence elements.

3 A well marked trait of the incorporative tendency is seen in the composition and derivation of verbs and verbals by the process of infixation, by which significant particles, or more or less assimilated words, or new phonetic elements, modify the meaning of the theme.

There are very few American languages which do not exhibit this phenomenon, and often in a striking degree. The Kechua grammar of Dr. Anchorena gives over 600 modifications of the infinitive of the verb "to love," formed by the infixation of particles, or the modification of the vowels of the theme. The Choctaw offers a series of modifications of the verbal by changes in its chief vowel. Nor are such instances confined to verbs and verbals. Sometimes a possessive pronoun is intercalated within the noun itself, as in the Mosquito language; and any word may be liable to modification by infixation. Sometimes, again, what is really infixation, has merely the appearance of vocalic substitution, as in what is called "the change" in the Algonquin verb, which Raoul de la Grasserie has ingeniously explained as "disguised infixation."

4. The presence of the incorporative tendency is seen in the relations of the clauses of a compound sentence. Each is merely superficially attached to the others, and the whole does not present grammatical dependence and subordination. The logical sequence is expressed either by position or material words.

There are no true relative pronouns, those doing duty as such being in fact demonstratives.

In conclusion I may say a few words on the effects of incorporation on the morphology of language.

1. The first effect is a strong tendency to isolation of the sentence elements. This seems paradoxical, but it is very obvious, even in the highly developed Nahuatl. The parts of the sentence which are not included in the verbal stand alone and unconnected. The consequences of this are shown in an advanced degree in the Maya and the Othomi languages, where the logical connection has sunk almost to the level of the dialects of Farther India, which depend on position alone.

2. The second is a deficient development of case. There are few examples, if any, of a declension of nouns in American languages. What is called the genitive, is an adessive or a possessive; the dative is an illative or an inessive; the plural is the singular with a strengthening augment, or with an affix of multitude; the gender is an affix of sex. Case relations are either not expressed, or are expressed by material additions to the stem, or particles separate from it.

3. The third effect is an effort to present each clause of a sentence in one phonetic complex, that is, as one connected sound. Steinthal says of this, that as the Chinese language is, grammatically speaking, without words, so the Nahuatl is without sentences, word-building has gone so far that it has swallowed sentence-building.

This excessive synthetic tendency has led to what some have called the "polysynthesis" of American languages. It is by no means essential to the incorporative method, as it is quite possible for this to proceed by juxtaposition, without assimilation of the sentence elements. The psychical process is the same in both cases, and this is what is really important in the morphologic analysis. It is a serious blunder to speak of Incorporation and Polysynthesis as synonymous terms, as does Count von Schulenburg in his recent work on the Tschumshian language of the Northwest coast. Polysynthesis is little more than an accidental aspect of the incorporative process. As far as the external phonetic form of the language is concerned, as I have just shown, that process tends quite as decidedly toward an analytic as toward a synthetic phoneticism.

THE WORSHIP OF THE RAIN-GOD.

BY STEPHEN D. PEET.

The worship of rain as one of the "nature powers" was very prevalent throughout the continent of America in pre-historic times, and has survived among certain tribes even to the present day. It had its greatest development in the arid regions of the interior, and here it still abounds in great force. The supply of rain was appreciated in other parts of the country, but here it was so much a necessity that the minds of the people were constantly exercised about it, and so they made it the one element of their religious ceremonies. It is interesting to study the cult and see how many methods of expressing the desire for rain were invented, and to notice the manner in which the rain was personified and symbolized, and how elaborate the ceremonies were which embodied this personification. It appears that the rain-god was not only personated, but that all the operations of the rain were dramatized and imitated. The other nature powers, such as the lightning, the cloud, the colors of the sky, the four points of the compass, even the sun and moon and stars made subordinate to this, and yet by their combination these set off the supremacy of the rain as a great divinity.

We propose therefore to take up the various ceremonies, customs and symbols which prevailed among the so-called "sky-worshippers" of the interior, and especially those which consisted in the dramatization of the rain. There is, to be sure, a great sameness to these ceremonies and customs as practiced by the different tribes, yet the variety is sufficient to warrant a description of each one in turn, for the repetition is found as significant as the variation. The following observations on the rites and ceremonies practiced by the aborigines and their significance by Mr William Wells Newell are valuable: 1. Tribal, gentile, social, religious festivals or dances depend in part on myths which are dramatized in the rites. 2. The rites are performed by secret societies, possessing initiations in different degrees, which constitute what may be called mysteries. 3. Of the ritual, some portions are intended to be in public, while others are wrapped in secrecy. The manner of the celebration as well as the significance of the rites is only comprehended by the initiated persons. 4. The dance is performed by masked or costumed personages, who enact the part of the divine beings whose history is recounted in the myths. 5. The actor was originally considered to be identical with the being represented. In

other words, the god, in his own person appeared on the stage and performed his own history, in characteristic representation. The following also, from Dr. Washington Matthews, on the connection between mystery and ceremony, has considerable force: "The rite-myth never explains all the symbolism embodied in the rite, though it may account for all the important acts. A primitive and underlying symbolism which probably existed previous to the establishment of the rite, remains unexplained by the myth, as though its existence was taken as a matter of course and required no explanation. Some explanation of this foundation symbolism may be found in the "creation" and "migration" myths, or in other early legends of the tribe, but something remains unexplained even by these. The wearing of masks, however, seems to have had but one significance. The person who wears the mask of a god, and personates him, is, for the time being, actually that god. The rain ceremonies gen-



Fig. 1. Medicine Bowl with Rain Symbols.

erally consisted in a dramatization of the rain, under the figure of an immense snake, who is supposed to represent the rain-god and his efficiency in bringing the needed supply of water, as well as his influence over the different crops. The drama, however, combined the migration myth and the creation myth with the popular conception of the source of the rain, and these made the variation in the ceremonies almost equal to the myths which were embodied in them."

One of the most interesting of the dramas is that which is called the "screen drama," as the screen bears an important part in it. A description of this ceremony has been given by J. W. Fewkes. It consists mainly in the carrying of various figures or effigies of snakes from the village on the mesas to a pool in the valley below and back again to the kivas, thus making them represent the rain cloud which rises over the mountains and drops its refreshing showers upon the mesas.

At the beginning of this ceremony, the young men brought quantities of sand and placed it in boxes, moistened it, and planted in the sand kernels of corn of different colors, yellow, blue, deep

red, white, black, speckled and pink. After a few days they unrolled the screen on which were sun emblems and openings; they then took several serpent figures or effigies, placed them near the fire. These serpent effigies were made with protruding eyes stuffed with seeds, a head made of a gourd, a collar made of corn husks and feathers, and a projecting horn on the top of the head. The body was hollow and so arranged that the arm of the dancers could be thrust into them, and so make them move about as if they were alive. The serpents were thrust through the sun disks in the screen, sacred meal placed before them and each dipped its head as if eating the meal. The life-like struggle of the serpent was imitated in a surprising manner. A procession was formed in which nineteen men, some with trumpets, others bearing the effigies, and others with pipes and a slow



Fig. 2. Rain and Sky Symbol.



Fig. 3. Zuni Rain and Cloud Symbol.

match and trays of sacred meal, who proceed down the mesa to a pool where they place the effigies at the edge of the water on the east and north sides, and meal and feathers on the west side. After various ceremonies, such as lighting pipes and smoking a few puffs to the sun, repeating prayers and trumpeting to the water, pouring water, dipping the serpent's heads into the edge of the water, sprinkling meal, they again take up the effigies and ascend the mesa, go down to the kiva and thrust the struggling serpents through the screen which has upon it the sun symbols, making the serpent effigies dance to the measure of a song which is sung by a chorus.

Before the screens were rows of sand cones, in which corn plants were inserted, making them resemble rows in a corn field. The serpents were made to dance over the cones. These represented the rain-god as arising from the water, floating in a cloud and hovering over the corn fields. The dances which followed carried out the same thought. In these the men called disk-hurlers came out from the "corn mound" kiva and the "oak mound" kiva, and distributed baskets among the spectators. A "kiva chief" planted a small spruce tree in the court and suspended

upon its boughs numerous ornaments, and at its base blue "prayer plumes." In the screen the four larger disks were called sun pictures and the two small ones moon pictures.* The panels on the upper part were surrounded with rainbows with lightning between each panel. The snake-like figures rising from the clouds are thunder bolts; the birds surmounting the conventional clouds represent the water birds; two figures in the center represent the divinities called sky-gods, or "the heart of the sky;" two figures in the outer panels represent the female companions of these sky-gods.

These were symbolic of the rain-god and his power over the winds, but there were many common articles used by the Zunis which represented the "world-quarters," rainbow and lightning. They sometimes decorated garments with the stepped figure, sym-



Fig. 1. Zunis Prayer wheel.

bolizing the clouds, sometimes with scrolls, which symbolized the winds. These scrolls resemble the scrolls and circles made in the sands of the desert by the wind driving weed stalks or red top grass round and round, for they believe these sand marks are the tracks of the whirl-wind-god. They also decorate their pottery with circular spaces, which resemble the sun disk, and in the spaces draw figures in the form of stepped pyramids and other curious designs, always careful to leave open spaces or outlets to each ornament. These "terraces in the sky horizons are the mythic ancient sacred places of the spaces.

The stepped figure was perhaps the consequence of basket weaving, but became a symbol to the superstitious people. The lifted line of the mountain was a ladder to the regions of the sky-gods, which was heralded by the thunder god at the rising and the setting sun, and so afforded a graphic symbol of the

* See *Journal of the American Anthropological Society*, Vol. 1, p. 100, for a description of the Zunis Prayer wheel.

"sacred spaces." The figure when applied to the pottery by the supple hand of a Zuni woman, was believed to be endowed with a spirit which bore the title of "made being" for whose ingress and exit the encircling lines were left open.

(1.) The ancient Pueblo medicine jar also contains the symbols of the sky-gods and the rain, and other nature powers. There are circles and several spaces on this jar, and in these the "ancient place" of the spaces, A; the region of the sky-gods, B; the cloud lines C, and the falling rain D. These are combined and depicted to symbolize the storm, which was the object of the worship in the ceremonials to which the jar was an appurtenance.* See Figs. 1, 2 and 3.

(2.) Another symbol representing the rain, storm, cloud, and lightning is very common among the ancient Pueblos. It is woven into the garments and painted upon the pottery and is prominent in their sand paintings. It consists of three arches with a horizontal space below with a zig-zag arrow above, and perpendicular lines for the rain. See Fig. 3.

(3.) The Zuni prayer-meal bowl illustrates this conception. The bowl is the emblem of the earth,—*"our mother."* (Fig. 4.) We draw food and drink from it. The rim of the bowl is round, but also terraced, as is the horizon, which is terraced with mountains whence rise the clouds. The handle of the bowl is also a symbol of the rainbow, as it is arched over the terraces and painted with the rainbow figure. The two terraces on either side of the handle represent the "ancient sacred spaces." The decorations of the bowl are significant. As the tadpole frequents the pool in spring time it has been adopted as the symbol of the spring rains, the dragon fly hovers over pools in summer, and typifies the rains of summer; the frog maturing later symbolizes the rains of the later season; the feather-headed serpent also typifies the water and the rain. Sometimes the figure of the sacred butterfly replaces that of the dragon fly, which symbolizes the beneficence of summer, for the Zunis think that the butterflies and birds bring the warm season from the land of everlasting summer.

It is a singular circumstance that a jar or vase has been found among the mounds which contains a figure of a plumed serpent which is furnished with wings, the lines on the wings being in the form of arches and those on the body being in the form of terraces or notched passages, the spaces being left open as they were on the Zuni pottery. Was this vase a specimen which was brought by some wandering Zuni into the Mound-builders' territory, or was it the product of the Mound-builders' skill, making the ornament represent the ancient myths which were extant? It would seem as if the figure represented the "water

* See *Annals Report of Bureau of Ethnology*, 1882 and 1883, article by Frank H. Cushing, p. 310, and *Mayas, Heads and Faces*, by Ellen K. Emerson, p. 8.

divinity" or the "rain spirit," though it is the only specimen where the serpent, which was always among the Mound-builders a water-god, is figured with wings and with step-lines.

II. A rain ceremony occurs at the initiation of children. There was a tradition among the ancient Zunis that their ancestors migrated from a distant point, but on their way they were obliged to cross a stream, and in crossing the children fell into the stream and became transformed into frogs, ducks, water-spiders, snakes and butterflies, and were transferred to a kiva which was situated under the water in a spirit lake. After their arrival in the village certain supernatural messengers were sent to this village under the water, who found that the children were again trans-

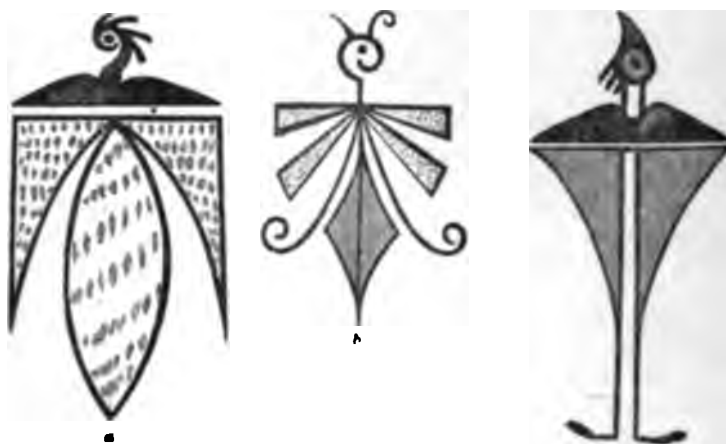


FIG. 1. Zunian Symbols and Rain Spirit.

formed into supernatural beings and had taken upon themselves the likeness of the chief divinities of the Zunis.* The children were after that time worshiped as ancestral gods, and were called the *Koko*. They dwell in the depths of the lake, where are "waters of everlasting happiness," and are reached only by passing through the interior of the mountain by a passageway which has four chambers in it. The *Koko* repeat the prayers for rain, making their intercessions to the sun, *Ya to tka*, and by them the plume-sticks are sent to the same great god. The offerings of plumes to the sun are so numerous that at night the "Sacred Road" can be seen filled with the feathers, for the "Soul of the Plumes" travels over the road just as the soul from the body travels from Zuni to the spirit lake.

*The first children were *Kave* (water) and *Ko* (snake). They originally were a brother and sister, but were afterward transformed into supernatural beings which dwelt upon the mountains, the youth into a butterfly, a winged creature and the maiden into a being with snow-white hair, probably a personification of the hawk-strike and the fleecy rain.

One of the most important characters in Zuni mythology, is called the *Koklo*. This divinity visited the spirit lake, where is the home of the *Koko*, and entered the kiva and viewed those assembled there, but found that the "plumed serpent," whose home is in a hot spring, was not there. He accordingly sent two of the *Koko* called *Soo-ti-ki*, for the plumed serpent *Ko-lo-wit-si*. They soon appeared, for they did not travel upon the earth but by the underground waters that passed from the spring to the spirit lake. Upon their arrival, the *Kak-lo* (tribal divinity) issued his commands, that certain of the "children-ancestors," whom he designated as the *Sa-la-no bi-ya*, should go to the north, west, south, east, the heavens and the earth, to procure cereals for the Zuni, and ordered that the serpent should carry these with water to the Zunis, (Ashisi) and tell them what to do with the seeds. He then visited the Zunis, instructed the people regarding the children-ancestors and told them that the boys must be made members of the *Koko* society.

Such is the myth which lies at the basis of the ceremony of initiation and which explains the different parts of it, but the true significance of the drama as a personified account of the rain god is better shown by the ceremony itself, for in these the actors both personate the gods and the operations of nature in the process of rain making. The first actor is the representative of the chief god, *Kaklo*, who is the herald of the coming of the plumed serpent, *Ko-lo-wit-si*, and may be regarded as the personification of the wind or cloud that advances before a rain storm. He arrives at the village and divides his time between the kivas which represent the cardinal points, the zenith and the nadir, and gives the history of the *Koko* and the gathering of the cereals of the earth. The next actors who arrive upon the scene are the impersonators of the *Koko*, "child ancestors," who prepare plume-sticks and get ready for the initiation. After them ten men who personate the rain clouds, *Koyemeshi*, on the mountains, pass through the village and inquire for the boys who are to be initiated. The *Sa-la mo-bi-ya* of the north, west, south, east, heavens and earth, and a number of younger brothers, who are the personators of the cardinal points and the bearers of the plumed serpent or rain cloud, also appear on the occasion. They wear masks of different colors. Those from the north, yellow; from the west, blue; from the south, red; from the east, white; earth, black; the heavens, all colors.* These take the plumed serpent, which is the emblem of the rain cloud, and is accordingly (as stated below) painted black above and with white stars below, to the "kiva of the earth," and here leave the image. This kiva is already decorated with two serpents which

*The following is a description of *Ko-lo-wit-si*. The serpent is made of hide, his sides and head painted white, his back black, and is covered with white stars, the tail end of which is held by the priest, who constantly blows through a large shell, making the sound which represents the sea monster.

extend around the inner wall of the room. At sunrise the actors go to this kiva and present to the image, whose head is seen projecting through an opening in a side wall, the plumed sticks, which symbolize their prayers, and ears of corn, which symbolize the objects which they want blessed.

The ceremonies for the initiation of the children follow this. These consist, for the most part, in pouring water through the body of the serpent into sacred bowls, and afterward pouring different kinds of grain and seed into the blankets, which are held before its mouth. Another part of the ceremony is that which has regard to the sacredness of fire as well as of rain. In this the representatives of the war god sit near the fire altar, which is in the center of the kiva, and feed the sacred flames. The actors, as they enter the kiva from above, turn a somerset over the fire, by placing the head upon a stone slab, which stands near the fire, and throwing their feet from the opening of the kiva to the floor beyond the fire. They also pass out of the kiva by a somerset, placing the head upon the slab, and so go out of the opening feet foremost.

These singular ceremonies are kept alive by certain secret societies, some of the members personating the mountain divinities, *Ko-jé-mé-shá*, others personating the winds, who are the cloud bearers, others personating the divinities of the cardinal points, still others the thunder god, and the lightning. Each of these societies has a kiva for itself, but the kivas represent the different houses of the sky and have symbols which correspond.

It appears from this ceremony that the children of the Zuni were brought to the worship of the rain god in connection with the other nature powers at their very initiation, and that there was a supernatural air thrown over all the operations of the rain-cloud, which must have impressed them through the remainder of their life. It would be impossible for a child to pass through this scene, in which the chief members of the tribe were the actors, and in which his own relatives and godfathers were engaged, without feeling that it was the most sacred event in his life, and yet the whole interest was concentrated upon the part which the rain-god had in the sacred drama.

III. The "solstitial" ceremonials of the Zunis also represent the worship of the rain god and dramatize the effect of the rain upon the corn crop. These have been described by Dr J. W. Fewkes. He says: "Both solstices are marked epochs in the Zuni calendar and are celebrated by appropriate ceremonials. The sun, at the approach of the summer solstice, is watched with care by the priest of the sun, who determines the time by noticing the light shining at sunrise through a depression in the mountains, called 'the gate of Zuni,' across the gnomon or sun post, which projects a few feet above the soil on the plain of Zuni; and then announces the time for the rain dances to begin.



SACRED ALTAR OF THE MAM-ZRAU PONG-VA,

A Woman's Society of the Walpis, decorated with the following emblems:

1 and 2. Figurines of the Mam-Zrau Mani, decorated with necklaces of pearl and turquoise. 3 and 4. Terraced mountains. 5. Cloud-wood, *O-mow-tahm*, a term applied to the whole frame work. The top row represents the cirrus clouds. The wine-glass objects are called cloud flowers. 6. Cloud prayer-plumes, *O-mow-uh-pa-ah*. 7. Rain wood bar or sheet. 8. Sand altar, *Tua*, sand, *Pong*, floor; sand spread out to represent clouds and lightnings. 9. Symbolic crook. 10. Mystic fetiches. 11. Young lightnings. 12. Corn mountain. 13 and 15. Coronet of lightnings. 14. Mystic spiral fetiche, called "woman twister". 16. Mam-Zrau tablet. 17. Long lightning which penetrates the corn table. 18. Hawk leather. 19. *Ta-pa-s*, the Palladium of the society, decorated with corn stalks. 20. *A-pa-gul*. 21. Terraced bowl.

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The first of the solstitial rain dances is the most important, but it is preceded by a singular ceremony, which is probably designed to imitate the effect of the pouring rain, but is really a burlesque rather than a serious ceremony. It is called "the ducking of the clowns." The clowns are persons who wear peculiar mud-head masks and who march single file under the walls of the pueblos. While they march the women and girls stand on the roof of the pueblo with jars full of water and pour it upon their heads, thus completely drenching them. A very singular ceremony occurs about this time. In this the dancers are seen on the hills southwest of the pueblo.

There seems to have been three classes of dancers and three kinds of dances. The most important were the *Koko*, who were the intercessors for rain. These wore masks with heavy beards of horse-hair and carried turtles that were said to have been gathered at the sacred lake. They were painted with zig-zag markings said to be rain symbols, and had upon their legs rattles made of small hoofs and turtle shells. Some of them had helmets, on which were figures of the sun and crescents and other symbolic devices. These represent the beings called *Koko*, who are supposed to live in some far away region. They approach the village a little after sundown and repair to one of the kivas; the squaws file up the street with bowls full of food and present it at the skylight of the kiva to the hungry *Koko* below. A boy who personified the god of fire accompanied the procession. Over his shoulder he carried a quiver and in his hand a fiery wand. His breast was ornamented with shell necklaces; he moved the fire wand back and forth as if it were incense.

Another dance is named from those who bear tablets with three upright projections, each ornamented with a feather and gaudily painted with figures in the form of crescents and birds. Their heads were wholly covered with cedar boughs; around the neck were strings of shells made of turquoise and coral. These tablets were all of them symbolic of the rain-cloud and the lightning.

The ceremonials for rain are continued during the month of August and culminate in a corn dance, as the corn is now ripening. It is followed by a very ancient dance called O-to-na-wey. In this *Ko-jc-me-shu* (ancient builders) appear as clowns carrying a great abundance of cedar boughs. The final ceremony was a procession of the priests of the bow, who visited the shrines and placed prayer plumes in them. Here then we have the rain ceremonies in which the sun at the solstices, according to the calendar, and the zig-zag lightnings, the fire, various animals and birds, objects of nature, cedar boughs and shells were personated, all nature being drawn upon; but the effect of the rain was a special object of the dramatization.

IV. The snake dance is the most remarkable of all the rain remonies. This dance has been often described and its ghastly

scenes depicted, but its significance is poorly understood. It was, however, nothing more nor less than a rain ceremony and differed from all others only in that live snakes were used instead of snake effigies. One ceremony was practiced by the Moquis or Hopis at their village by the particular organizations which exist there.

The following is a description given by Mrs. Matilda C. Stevenson: "The 'snake dance' is introduced by the male members going to the different points of the compass for six days gathering snakes and depositing them in four vases. On the fifth day a sand painting is made on the floor of the kiva; fetiches of the cougar and bear are placed near it; the snakes are deposited on it and are kept there by the novitiates, who use wands made of eagle plumes. The Indians declare that the eagle possesses the power to charm the snakes by flying about him and gently caressing him with his wings. The out-door ceremony begins with the process of placing the live snake in the mouth of the novitiate. This is done by the chosen father, who grasps the snake and places it before the face of the novitiate and prays while he inhales the breath of the snake. After the snake is put in his mouth the novitiate dances while an attendant caresses the serpent with the eagle plumes. It is the ambition of the men to prove their skill in the handling of the snakes, for by this means they become the greatest jugglers and arise in the order. This ceremony is repeated four days in succession. Afterward an all night ceremonial occurs in the kiva for a final initiation of the young men—when their power of endurance is taxed to the extreme.

The legend of this people is interesting, but is too long to give complete. In the legend the voyage of a young man, a son of the high shaman, is described, and his visit to the house of the spider woman. He passes four sentinels, equidistant from one another, each a huge serpent, who held his head erect and hissed at the youth. He enters into a rocky cavern, where are many young men and maidens dressed in white blankets. He is led to the house of the "mother of the sun" by the spider woman, who lives under the great waters. He separated the great waters with his large wand, and made a dry road by which he passed to the house. Here he saw all the plume offerings of his people to the sun. He was welcomed by the "mother of the sun," who told him that the sun would return presently. He is startled by a great noise, caused by the sun passing through the waters to his house. His descent was through a huge reed. Putting a foot on either side of the reed, he descended head foremost."

*This legend, as given by Mrs. Stevenson, is the same as that reported by her in the *Journal of the Museum of Natural History*, Vol. 1, p. 100, 1900. It is also given in the *Journal of the Museum of Natural History*, Vol. 1, p. 100, 1900.

The spider woman said we will go with the sun to his father's house in the east, for the mother's house was in the west. They in company with the sun passed under the earth and afterward ascended the reed that penetrates the eastern waters, and passed over the world and looked down upon his people in Canon de Chelly, and could read their hearts and could tell the good from the bad. Returning to the earth the youth visited the cavern of the snakes and took for his wives the two beautiful daughters. On reaching his father's house he told him his adventures. His father then said, "we will have a great feast to the snake and antelope people in sixteen days." To this feast they invited only those good in heart. The snake people came in four delicate showers, each shower bringing the people; the showers were however invisible to the Hopitu. On the eighth day the people danced, holding green corn stalks in their mouth, but the youth was horrified to find that the snake people had been transformed into snakes, and that one of his wives had also become a snake, and their children became snakes.

The legend of the flute people differs from that of the snake people, but it is nevertheless the "foundation myth" for a rain ceremonial. It celebrates the migration of the flute people and their encounter with the snake people and the alliance of the two people.* It runs as follows: Lelanguh was the director of the flute people. The music of his flute drives away the winter and brings the summer rains. He was the director of many people, and his insignia of office was the crook Pa-a-ya-a, which was symbolic of longevity, to which were attached four rattles ornamented with fluffy feathers of the eagle. The rattles were used by him when he sang for rain, to water his lands. The songs were sung to the rain people of the north, the west, the south, the east, the zenith and the nadir. The six songs brought the rain, and Lelanguh blew his whistle into the water which fell upon the earth, making it bubble, at the same time praying for more rain, and the earth was well watered.

Then follows the story of the migrations of the flute people. It appears that these migrations were in obedience to the direction of an oracle, which was carried with the people very much as the *tabot* was by the Israelites in their wanderings and the sacred boat among the Egyptians.† This oracle was in the shape of a portable altar with a fetch of an ear of corn before it. This altar Lelanguh erected upon his advent into this world. The corn was trimmed with eagle and parrot plumes and had bits of

* S. S. Mrs. Stearns has a short and article by Mr. J. Walter Fewkes in *American Anthropologist*.
 † Among the Aztecs a sacred relic was a common thing among all the aboriginal tribes. It was a small ear of corn, but nevertheless served the same purpose. Among the Chiriquians it was the *tabot*, which went before the people; among the Dakotas it was the *tabot*; among the Pawnees it was the pipe keeper's tent; among the Pawnees it was the *tabot*; among the Chiriquians it was the *tabot*; among the Chiriquians it was the *tabot*.

abalone shells and beads of turquoise suspended to it. Wherever the people went this oracle was set up. The flute people came at last to the home of the snake people and had four talks with them. At last Lelanguh told the director of the snake people that he knew "the secret of the rains" and could water the land for them. "Well," said he, "if you can command the rain people and know the secret of the rains we will be glad to have you with us. If you know the secret you and your people must be first, I and my people second. If you, indeed, know the secret, hasten this rain that our land may be watered." "Wait," said Lelanguh, "in eight days I will return to your village, and we will go into the kiva." At the end of the eight days the director, Lelanguh, returned with two young virgins and a youth, who went into the kiva. The virgins and the young man were dressed peculiarly, being covered with symbols which showed them to be the personators of the rain cloud. The virgins wore white blankets and the lower portion of their faces was painted black, a white line across the mouth extending from ear to ear bordered the black, symbolizing the rain cloud; their feet and hands were colored black, their arms and legs in zig zag of black, which symbolized the lightning. The youth wore a white breech cloth and eagle plumes in his hair. These remained in the kiva of the snake people, perhaps as personators of the rain cloud which was to come. On the fifth day the flute people feasted and sang. At midnight they had sung four songs, when the rain slowly approached. It came not in showers from the heavens but walked over the earth. The waters were invisible to all but Lelanguh.

The people then painted their bodies and limbs white and put on white blankets and breech cloths and followed Lelanguh, who was accompanied by the "twin war heroes" and carried the five large wands, or prayer plumes, and advanced to the land of the snake people. All the men had sunflowers on their heads and carried corn and seeds of melons, beans and peppers. As they neared the village the rain began falling around the land of the snake people, but not upon it. After the fourth song, the rain began falling upon the land of the snake people and the land was well watered. The snake people wept for joy. Then Lelanguh gave to the snake director all the cereals that his people had brought, and he was greatly pleased and said, "You are indeed my father, you have brought us rain, you know the secrets of the rains, the land shall be yours." Songs were then sung, on alternate years to the west for rain, to the south, the east, the zenith and the nadir, and invocations were made to the cougar of the north, the bear of the west, the badger of the south, the white wolf for the east, the eagle for the heavens, the shrew for the earth, to intercede for rain. Different colored corn was depos-

* These songs are given in the Appendix to the first volume.

ited and prayer plumes planted at the points of the compass. The plumes carried prayers for all things good.

Upon leaving the kiva the flute people saw their women sitting on the hills around the village. The women wore white blankets and the children had white plumes, which were probably the symbols of the rain-cloud. In a little while the land was abundant with melons, beans and other vegetation, though nothing had been planted. In this way the snake people and the flute people became allied. The personating of this myth in the drama of the flute society takes place every year. In the flute drama the flute people and the snake people both appear.

V. The "snake dance," which occurs at the village of Walpi, is more interesting than that which occurs at the Tusayan pueblo, which was just been described. This is also a rain ceremonial, and is pronounced very ancient by Dr. J. Walter Fewkes, who says: "The reason for the whole ceremony lies far back in the past, but has become more or less obscured by the progress of time." The celebration of the snake dance lasts eight or nine days, during which there are various preparations for the ceremony, the preparations being generally symbolic of the rain. Among these we may mention: (1.) The making the charmed liquid. (2.) Making the sand mosaic or dry painting on the floor of the kiva. (3.) The smoking the sacred pipe and the distribution of the prayer plumes. (4.) The beginning of the snake hunts. (5.) The invocation to the four world-quarters. (6.) Introduction of the snake boy and snake girl, who were the personators of the rain-cloud. (7.) The snake race, which was a race through certain sand paintings which represented the clouds and rains, of the different cardinal points. (8.) The washing of the snakes. (9.) The snake dance itself. In all of these ceremonies the dress and decorations were symbolic of the rain-clouds and of the falling rain.

The most interesting of these ceremonies was the race which symbolized the passage of the wind through the rain-clouds, though the washing of the snakes and the snake dance were the most tragic and thrilling in their performance. In this snake race there were about forty runners and about eight priests, the snake priests and the antelope priests moving in pairs. One part of the ceremony consisted in placing the plank in which was the *si-pa-pu* or "place of beginning" on the ground near a shrine, each of the actors stamping upon it as they marched by. Another part consisted in the priests taking corn stalks and vines in their mouths and marching slowly through platoons of the actors. In another part four priests stood with crooks in their hands and with white paint upon their bodies at intervals along the trail made of colored meal, over which the actors were to run; near the priests were sand paintings which represented the rain clouds of the four cardinal points. The runners as they

passed the priests and went through the symbolic rain clouds, were expected to strike the ancient crook, held by the priests. All of this ceremony was a dramatization of the history of the people and the operations of the rain.

The decorations of the priests and the symbols resemble that which was used in the flute dance, the young man and the virgins having exactly the same white garments and black lines upon the face and body, but the main difference was that the ancient relics which had been used by the Walpi were brought into the ceremony. The articles used in connection with the ceremonies were symbolic. Among these were (1) "the snake pipe," on which was a rain symbol. This was smoked in silence. (2.) The eighteen stone implements which were brought up by the ancients out of the earth. (3.) The fifteen bent sticks, which were called crooks. (4.) The plank, in which was the hole called *si-pa-pu*,



Fig. 1. Snake Kilt.

through which the ancients ascended. (5.) The plumed prayer sticks, which were deposited in the shrines. (6.) The various sand paintings or sand altars. These sand paintings were all made in the same way. They contained four rows of semi-circles, each row having a different color to represent the clouds, with zigzag serpents shooting from the clouds, two of them male and two of them female, with black parallel lines to represent the rain.

(7.) The sand painting referred to above was another symbol. This was placed immediately above the plank in which was the opening called *Si-pa-pu*, which symbolized the place of emergence for the ancestors of the people. The border of different colors was symbolic of the "world quarters." Around the altar or sand pictures were fetiches of the animals of the "world quarters," which faced the figures of the clouds. This opening in the floor was suggestive of the creation myth, but the sand paintings were suggestive of the sky and the operations of the rain clouds, thus making a combination of that which was below and of the world above in one symbol.

(8.) Another article was the "whizzer," which was a thin wooden slab, the faces of which were decorated with zigzag bands; this was dipped into the charmed liquid of the sacred

bowl, which symbolized the rain, and rapidly twirled so as to imitate the sound of thunder. The snakes were not so symbolic as the decoration of the priests and dancers, though the fact that they were carried in the mouths of the dancers and were kept from biting by the feathers in the hands of the attendants, made them significant perhaps of the lightning and the clouds, being controlled by the gods or by those who personated the gods.



Fig. 5. — Antelope Priest.

The decorations of the Zunis and Hopis deserve attention in this connection. Many of these were symbolic of the rain. They are as follows:

(1.) The dance kilt. This was a symbolic garment, which had a black band with a white border running zig-zag through its center, representing the plumed snake, with arrow-shaped marks representing the foot-prints of the duck, and short parallel marks representing foot-prints of the frog, both water animals. On either side of this band were two sets of parallel bands, representing rainbows. There was a fringe on the kilt composed of little triangular metal plates. See Fig. 6.

(2.) Snake kilts were worn by snake men who carried, in their

hands, snake-whips made of eagle plumes. The kilt of the antelope priest differed from this in that it was a plain woven garment, but had a border at either end which was ornamented with stepped figures, to symbolize the clouds, zigzag lines to represent the lightnings, parallel lines to represent the rain; an embroidered sash was attached to the belt of the antelope priest.

(3.) The decorations of the priest consisted of white, zigzag lines on the legs, arms and body, and the chin was painted black, the body a bluish color. He wore a white embroidered dance kilt, held in place by a white girdle, and a white feather was tied to his scalp lock, a wreath of cotton wood leaves about his head, string of beads of shell and of turquois about his neck. He wore buckskin anklets and red moccasins, thus making the symbolic colors complete. In his right hand he carried a rattle and in his left hand he carried a bowl filled with liquor. On his right arm was a bundle of cottonwood twigs, in his left a plumed wand.* See Fig. 7.

* A Tusayan ceremony has been described by Mr. A. M. Stephens, in which some novel rain symbols appeared. A number of ancient staves of wood were displayed, on which were painted designs which represented the sky divinities under human forms. Some of these had faces covered with arrows, others had arrows and rain symbols upon the skirts which cover the body, others had faces surrounded with feathers, still others had a rain symbol attended with the phoenix symbol, but no faces, one had a single corn plant and no rain symbol, one had the human form richly dressed and decorated with many symbols, the face surrounded by stepped figures and the rain symbols above the face. These tablets were carried in the final dance by about thirty girls who were dressed in white and blue tunics, and who also carried a quantity of corn stalks, thus showing that the rain gods were personified and worshipped as human beings. The dancers at the close stated their services in such a way as to turn a horse shoe. The phoenix symbol on these tablets was made up from the different parts of the rain symbol, which were carefully arranged so as to make it resemble a phoenix. It had a tail feathers on either side and one above the phoenix, but lines representing the rain came within the phoenix, making an expressive figure.

ENCLOSURES IN WISCONSIN.

By T. H. LEWIS.

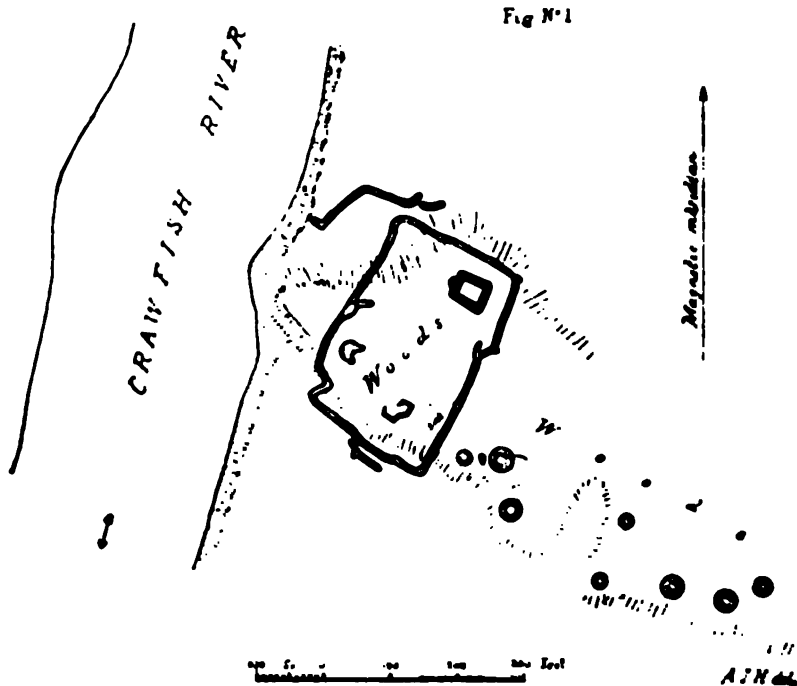
On the east side of Crawfish River, in Jefferson County, Wisconsin, and just below the famous enclosure known as Aztalan, there are two other small but interesting enclosures which seem to have entirely escaped the notice of visiting scientists and others interested in such works; at least that inference may be drawn from the fact that hitherto there has been no published description nor even a local reference to them.

The first of these enclosures is located on the northeast quarter of the northeast quarter of section 20, township 7 north of range 14 east, occupying the end of a spur or ridge. It is well situated in a defensive point of view—the enclosed space being from 25 to 42 feet above low water, and not commanded by any other elevation.

The embankment forming this enclosure is from seven to eight feet in width, from one to one and a half feet in height, and is unbroken, there being no openings or gateways for entrance and exit. It crosses the spur at two points, the northwest corner being just beyond the foot of the slope, and on the south side it extends entirely along the foot of the slope. There is a projection at the northeast corner, and another on the east side just north of the center, both extending outward; but these, unlike those around the embankment forming the Aztalan enclosure, appear to have been constructed as a part of the wall, having about the same elevation. On the inner side of the eastern embankment there is a projection extending at an angle toward the north. Nearly opposite to this, on the inner side of the western embankment, there is a long projection which extends eastward in an east of north direction. This projection, together with the main embankment, intersects an elevation two feet in height, which has the appearance of having been an elliptical mound, and from the manner in which the junctions were made it is evident that the mound was in existence previous to the construction of the embankments.

The length of the enclosed space on a right line drawn through the center and inside of the embankments is 315 feet, and the width through the center 200 feet; but all four sides are of different length, and are more or less curved at various points, and there are some sharp angles at the southwest corner. The longest obtainable inside straight line measures 368 feet. The area of the said space, inside the foot of the walls, is 1.37 acres. The perimeter of the work, following the outside line of the embankment, is 1,080 feet.

On the outside, beyond the northwest corner of the enclosure, there is an outwork consisting of two embankments, which, from general appearances, were constructed with a view of increasing the size of the enclosure—as an addition thereto; but viewed in another light they may have been constructed as an additional means of defense. Just outside of the southern embankment there is a second one which has a single projection on the outer side, and which was apparently built as an auxiliary to the main one.



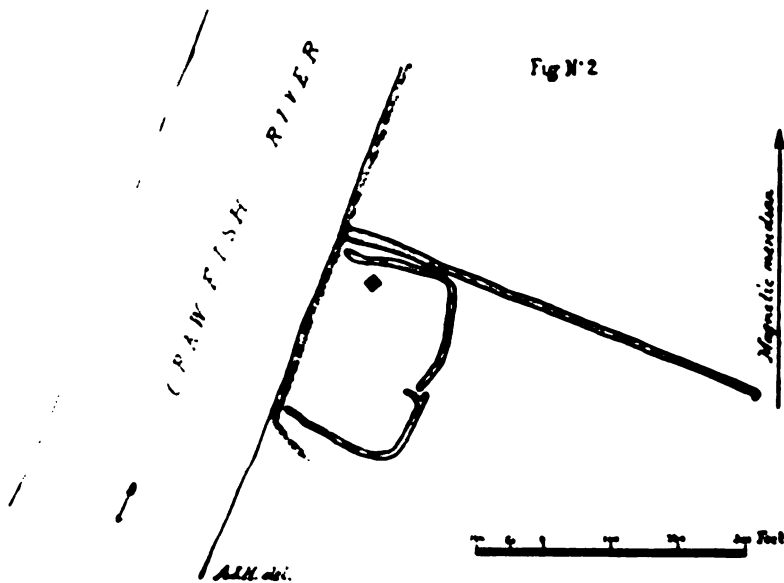
On the inside near the northeast angle there is a small platform mound, which is built on sloping land. At the base it is fifty-three feet in length, the east end is forty-eight feet wide and four feet in height, and the west end forty-four feet wide and six feet in height. There is a short steep approach, or graded way, on the west side, which was evidently intended as the means by which to ascend to the top, which is level.

In the southeastern part of the enclosure, on slightly sloping land, there is a low platform mound which has six angles. The southeastern part of this singular structure is two feet in height, while at the northwest it runs to grade, the top being level.

On the west side, in the southern part of the enclosure, there is an effigy mound representing a tailless animal. It is thirty-

six feet in length, three and one-half feet in height, and is unusually smooth and regular, so far as the surface of the mound is concerned. This is one of those queer productions of the mound building period, wherein, for some reason best known to the makers, the head was entirely omitted or only a trace of that useful member shown.

Southeast of the enclosure there are three mounds and a house site. One of the mounds is shaped somewhat like a coffin, or moccasin, and is fifteen feet in length, eight feet in width and one and one-half feet in height. The house site, of



circular form, is marked by a slightly elevated margin, while the center is slightly excavated. Farther on, little south of east, on the same ridge, there are five other round mounds.

There is nothing within or around the enclosure that can be called an excavation. Near the southeast angle the east embankment crosses a natural sink, of which there are others in the same region—perhaps this is within the northern limit of the "pot moraines." A plan of this enclosure is given, marked Fig. 1.

About one hundred yards down the river, to the southward of the enclosure described above, there is a second one. It is located on the southeast quarter of the northeast quarter of section twenty, on a low bank which is not elevated more than ten feet above extreme low water. The embankments merely form an enclosure on three sides, the ends at the northwest and south-

west angles terminating at the edge of the river bank, which forms the fourth side. The embankments are from six to eleven feet in width, with an average of perhaps eight feet, and are from one to one and one-half feet in height.

On the east side of the enclosure there is a well-guarded gateway or opening. The ends of the embankments slightly overlap each other, and on the north side of the gateway there is an additional embankment (or wing), which leaves the main one and curves inward past the termination of the embankment forming the north side of the gateway.

On the north side of the enclosure a few feet from the northern embankment there is a large embankment which is now 650 feet in length, but an additional six feet of the curved end has been destroyed by the caving away of the river bank. The west end, which terminates on the river bank, is twenty feet in width and two feet in height. The east end, which extends across the section line and terminates on section 21, is eight feet in width, one foot in height, and has a projection on the north side at the end, which is of the same height as the embankment. This embankment may have been built with the ultimate intention of enclosing a much larger piece of land, but if so, there would seem to have been a sudden termination of the work, the necessity for such an extension having for some unknown cause ceased.

There is a low square platform mound within the enclosure, at the northwest corner, and not far from the river bank. The top is 7x7 feet, the base 17x17 feet, and it is one and one-half feet in height.

The main inside length of this enclosure is 273 feet, and its width, to the edge of the bluff, 184 feet, the longest obtainable straight line measuring 305 feet. The area, as bounded by the inside foot line of the embankment and the top of the bluff is 1.08 acres. The outside perimeter or circuit is 905 feet, including the bluff line. A plan, marked Fig. No. 2, is given for this work.

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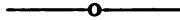
The embankments forming these two enclosures and their outworks were probably palisaded; for without such augmentation the sides would not be tenable, the embankments being too low to admit of a successful defense.

As to the builders, it may safely be assured that one people or tribe built and occupied all three of the enclosures—the original "Aztalan" and the two new ones described in this paper. This is indicated by the platform mounds, there being one or more within each of the enclosures; and the projections along the main embankments also add strength to the assumption. Although there are none along the main embankment—barring the one at the gateway—of the lower enclosure, there is a single

specimen at the end of the long auxiliary embankment which undoubtedly furnishes a strong link in the chain. In addition, the ruined effigies within one-fourth of a mile north of west from the old Aztalan enclosure*—a continuation of the Aztalan mound system on the high land—and the animal effigy within the upper enclosure, on the east side of the river, also indicate that these pre-historic architects were the effigy-builders—that mysterious people who have left us so many specimens of their peculiar handiwork.

The surveys from which the information for the above descriptions and diagrams was derived were made October 27 and 31, 1893.

St. Paul, Minn., July 5, 1894.



PALESTINE EXPLORATION FUND.

BY THEODORE F. WRIGHT, U. S. SECRETARY.

Dr. Bliss reports a great work done at Jerusalem during the past few months. He has continued to excavate at the south-westerly side of the city, near the English burial ground. He began at that point on the high hill above the valley of Hinnom in order to move eastward along the line of the ancient wall, the foundation of which he hoped to find in position. This expectation has been fully realized. At the outset he found a good clew in a rock scarp which showed where man had wrought to make a foundation for stones. In his report which appeared in the statement for July, he could speak of only a beginning; now he can give a diagram showing more than three hundred feet of digging.

The difficulty in this work was that he was at a corner of the wall, where a bastion was found having at least seven different faces. He was at one time misled here, and lost some time, but now it all comes out clearly. A photograph gives some idea of the strength of one of the corners. This bastion looking out over the valley westward and southward is exactly where it should have been to make a naturally strong position still stronger.

Having digged around this "tower," as it would be called in Bible language, Dr. Bliss found a paved street leading eastward and followed it some two hundred feet. It is a narrow way and appears to have been constructed by cutting into the rock

*See, Stephen D. Peet, editor of the American Antiquarian, expresses the opinion that some of the effigies within this enclosure were effigies. He also mentions the existence of effigies in the mound to the northward, in the cemetery.

and forming a drain in the center of it, with a space for walking on either side, as in streets now to be seen in the city. Of course this street entered the wall near the bastion by a gate, and that he soon found; but there his story ends for the present at a most exciting point. His next report will show a marked advance if he can continue to work at this rate, and there is little doubt about that, since the summer is so hot in Jerusalem that his men must have had much to contend with. The government appears to be doing all it can to facilitate the exploration and there is no cloud whatever upon the horizon.

A beautiful piece of mosaic pavement has lately been found near Damascus gate. Its pattern is an arrangement of birds in circular vine-like spaces. An inscription on the border shows that the pavement is the floor of a chapel built to contain the remains of Armenians who died at Jerusalem. No doubt there are tombs underneath, and these will be explored; thus the work widens. It is remarkable that, when workmen preparing to build a house found this place, the city government took possession with its soldiers in order to preserve it unharmed, and immediately sent word to Dr. Bliss to come and examine it; thus he was recognized as an official archæologist, and it would not be strange if he were ere long to become to Palestine what Mariette and his successors in office have been to Egypt.

May I make a remark on "The Stone of Cana," mentioned in the last number of the ANTIQUARIAN? No proof is given that the stone came from Cana except an inscription upon it to this effect, and then the suggestion is made that the Lord reclined on this stone when present at the marriage supper. The present spirit of research in such matters is scientific. Probabilities are not enough to depend upon. People are very slow in coming to this, and General Gordon's inspiration is enough with many to fix the place of the Lord's tomb, and many other conclusions are made as rapidly as Dr. Talmage would make them in addressing a miscellaneous audience. It is best, however, to leave aside guesses and to ask for proof when we are shown the virgin's house at Loretto, or the Cana stone at Elateu, or a piece of the true cross in many places.

Editorial.

A NOVEL INTERPRETATION OF THE GREAT SERPENT MOUND.

The great serpent in Adams County is one of the monuments with which the world has become familiar, but concerning which a great deal of curiosity has been exercised. But no one has been able to solve the mystery which envelopes it. There have been, to be sure, various interpretations of it, but none of them are very satisfactory. The first interpretation was the one advanced by Squier and Davis, the authors of the "Ancient Monuments." Their theory was that the effigy perpetuated the Hindoo story about the cosmogonic egg; and the oval was regarded as representing the egg. The second theory was offered by the Rev. J. T. McLean, who held that the oval represented a massive frog. The interpretation which has been the most acceptable to the American archæologist is one that is based upon the shape of the bluff itself, and the conformity of the effigy to the shape. It was a common superstition among the aborigines that when any object in nature resembled any animal the spirit of the same animal haunted the place. It was found, on examination, that the cliff in its general contour, and especially in the exposure of the rock, had the appearance of a colossal reptile lifting its head from the valley of the stream. The point of rock is the head; the dark lip-like edge above is the nose; the light uncolored rock underneath is the white neck; the caves are the eyes; the projection of the ridge to the right and left represent the protruding coils of the snake; the rise and fall on the surface of the bluff represents the uneven line made by the serpent when in motion. The varied effects of light and shade would greatly increase the vividness of the impression, especially as it was situated in a lonely and retired part of the wilderness; and nothing could be more natural than that the Indian should recognize in it the real form of the great serpent manitou. This, in the mound-building era, resulted in the erection of an effigy on its summit which conformed to the shape of the bluff, and so brought out the thought plainly, the strange oval taking the form of the body of the serpent, and the altar in the oval taking the position of the heart, according to the conventional style of art which prevailed. The oval, in all probability, marks the site of religious ceremonies; the altar, the place of sacrifice. According to this interpretation, the great serpent represented one of the animistic divinities, the one which was the most powerful, viz., the serpent divinity, and was the embodiment of a popular myth.

There has appeared, however, in the Bulletin of the American Geographical Society, a new interpretation, which is quite startling. It is advanced by Mr. Francis Parry, who has been exploring in Central America, and who has become familiar with



Fig. 1. Great Serpent in Adams County, Ohio

the symbol of the serpent, as it is seen upon the monuments and recorded in the codices. His interpretation is as follows: "It is a monster figure of the god of the air, the great divinity who is more particularly honored by the inhabitants of Yucatan, but which may have been universal in his sway." "Placed on rising ground, the oval first comes into view at a point which, on looking backward, gives a prospect through which the stream flows dividing into three forks—the mystic three." "In the rear of this, eastward, is the serpent's head 'on guard,' in the shape of a triangle adapted to the oval in front. The main figure bends to all points of the compass and terminates in a triple coil. The coil is found to be a fac simile of the ordinary 'wind sign,'

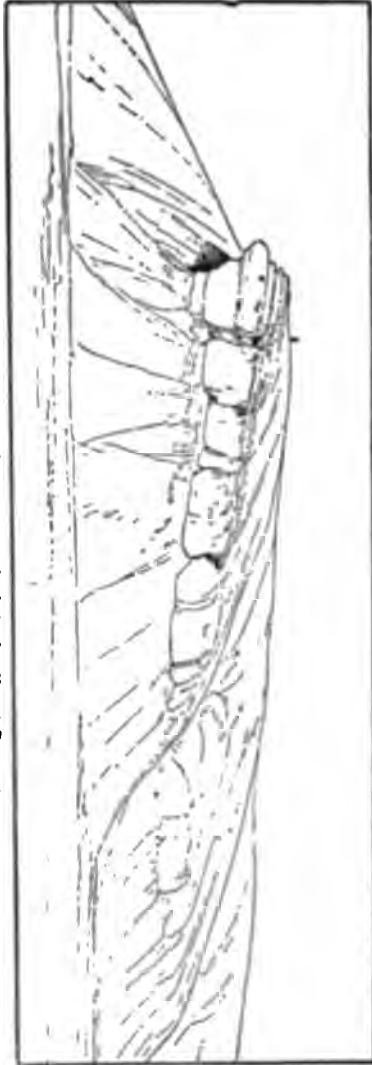
which is often scratched by the least intelligent savages on slate porgets and on rocks and caverns." "The tortuous winding of the serpent's body is the aboriginal typical cloud-form, and the head, a serpent's head, is the well-known Maya conventional emblem of the rain god." "The triangle has a significance, the same significance which the triangle has with Zunis, Moquis and the ancient Cliff-dwellers, and is equivalent to the triangle on the gold ornament or amulet from the temples of Costa Rica. It

perpetuates the sentiment of father, mother and offspring, "the Hindoo triad." "Thus an unbroken connecting thread of religious affinity is discerned, which extends into South America, Costa Rica, Guatemala, Western Mexico and the United States." "The multiple of three is at once visible in the three sides of the triangle, the three convolutions of the serpent's body, and the three coils of its tail." "Four of the sustaining principles of nature have been discovered in the mounds. To complete the five it is necessary to include the oviform figure." This and the circle were the sun emblems of Central America.

He produces as an example a cast of an image in relief on a jade amulet, having the quaint shape of a frog carved on it, "with a body in the shape of an oval, eyes in the shape of rings." "The green color may allude to young verdure, and be also an emblem of water, thus bringing two germinating forces together on the amulet, heat and water."

Now this is reading into the Great Serpent more significance than has ever been given to it; more, even, than the Hindoos gave to their mythologic creature, the Vasooke. The Hindoo myth was that this Vasooke or serpent was used as a rope, and the mountain was used as a fire machine or fire generator; that the twisting and turning of the mountain stirred up the waters of the sea, so as to discover the essence of immortality. But there is no account made of the triangle, the oval, the circle, the five elements, or of the triad in the myth, though the suastika is a very familiar symbol in India and America. The author then speaks of the cup-formed markings on boulders, and even

Fig. 2.—Shape of the *Cygnus* on which is the Great Serpent.



refers to the compound symbols which represent the five principal divinities of ancient America, and to the higher sacred number, six, embodied in the double triangle, which, "taken in its world-wide and Masonic signification, is an all-embracing expression of Cosmos." He says the "ancient religion of America, as it comes to light, assumes nobler proportions and is Cosmogonic."

This is all very interesting, for it magnifies American symbolism, but we are not quite prepared to accept the interpretation, for the Mound-builders of the Ohio Valley can not be put on a level with the civilized races; nor can we ascribe to them a symbolism which would be as elaborate as this gentleman claims. The number four was a sacred number among the Mound-builders, the concentric circle, also a sacred symbol among them. The four elements may also have been recognized by them, as well as the cardinal points, for fire, water, earth and air seemed to have been worshiped. But when we are called upon to adopt the numbers, three, four, five, six, as sacred numbers, and to believe that the "Masonic symbol," the double triangle, was pre-historic, we must protest, for this reduces the whole thing to an absurdity. If there was a distribution of oriental symbols in this country in pre-historic times, it would not be likely that these modern notions could have been connected with them, though the serpent was among the Mayas a symbol of the rain-cloud, and so far as this goes the theory that the Great Serpent also symbolized the same thing seems quite plausible.

THE SERPENT A SYMBOL OF THE RAIN CLOUD.

This certainly seems to have been the significance given to the serpent by the Moquis, Zunis and Navajoes, and a few other tribes of the interior, and was probably its significance among the civilized tribes, such as the Mayas and Nahuas. But was it the significance which was given to it by the Mound-builders and the tribes east of the Rocky mountains?

Now this is the question which we are to consider, but we shall in answering it first direct attention to the figure of the serpent as a symbol of the rain-clouds, and of the various ceremonies and dramatizations which were connected with it. (1.) We may say at the outset that the serpent was a symbol either of rain or of water, in all parts of the globe; the myths of India showing that he was there the great monster of the deep; the myths of China revealing him as the great dragon of the sky; those of Japan showing that he was "god of wells;" and those of the eastern tribes of North America showing that he was the god of water—among these tribes he always lived under the water and was represented as coming up out of the water, and it would appear that here it was the great spirit of moisture, or the water, that was deified, rather than the cloud or the lightning or any other part of the rain-storm. The character of the snake divinity differed among the different tribes. The rude hunters and savages, such as the Algonkins, Iroquois and Dakotas, made the snake one of their chief divinities, but represented him as in conflict with their chief divinity. In this conflict the serpent was a great disturber, who must be subdued by the chief divinity before blessings could be secured by the people. Among the Pueblo tribes, on the contrary, the snake was always regarded as a source of the best blessings, and his approach was always welcomed, for it was through the body of the serpent that the seeds and grains were poured, as well as water. Among some of the civilized tribes, such as the Mayas, the conception was, that the snake was a source of blessing to the people, but was nevertheless to be feared as a being of great power. To illustrate: We find the form of the feather-headed snake decorating the façade of the palace of Copan, also adorning the massive stone pillars which supported the roof of the temple at Chichen Itza, two of them forming the balustrade to the stairway of the pyramid of Palenque, the massive jaws projecting beyond the stairway. The idols in the temples in Mexico were covered with a most ghastly array of snakes' heads and fangs and rattles, with "death heads" in the center of them, and some of the temples, according to old writers, appeared like serpents' heads full of fire. Yet in the codices of the Mayas there are many representations of the snake as a kindly

divinity. In this we see that the character of the divinity always partook of the character of the people who worshiped him, even when the same "nature power" was worshiped.

(2.) The name of the divinity represented by the snake is to be considered. There were different names used by different tribes to represent the rain-god. Among the Mayas he was called "Kukulcan;" among the Chicmecs, "Zamna;" among the Nahuas in Mexico, "Tlaloc," among the Toltecs, "Quetzatlcuatl;" among the Hopis "Balulukan;" among the Zunis, "Ko-loo-wit-si." He was always the same god, and had the same general office, and was represented under the same or similar imagery. There is, to be sure, a little confusion when we come to examine the symbols with which the different gods are decorated, for Quetzatl-



Fig. 5. *The Plumed Serpent, with Peculiar Markings.*

coatl, the rain-god or air god of the Toltecs, always had the feather-headed serpent for his symbol, while Tlaloc, the Mexican god, and Huitzilopochtli, the Aztec god of death, were frequently draped with the serpent, the main difference being that Tlaloc always had the spectacle eyes, but Quetzatlcuatl had the cross-covered robe for his distinguishing symbol.

(3.) It is interesting to note that the form of the snake is often used in connection with the falling rain. There are several instances in the codices where falling water seems to come from the snake's body, and the association of the snake with water is not unusual. Other figures are sometimes associated with water or falling rain, but in none is the relation so constant as in the Maya codex. Here the serpent is made very apparent as a symbol of moisture. In the *Coder Treano* the same god empties a jar of water upon the symbol *kan*, which is supposed to represent maize. The heads are always represented with the face in

profile, even when the body is viewed sideways. The opinion has been expressed that this long-nosed god represents the rain. This is confirmed by the fact that in several of the figures there is a crooked feather-headed snake represented as drawn across the body of the god, and drops or lines representing rain are falling from the two, as if the divinity and the snake were in the midst of a rain-storm. The long-nosed god is probably the equivalent of the Mexican rain-god Tlaloc, but represents the Maya god *Kukulcan*. In some of the codices the divinity has the feet of a frog instead of human feet. The snake has the marks of rain falling from the head. The remark is made that the snake-god is not a creator of rain, but a powerful agent to act upon the rain, as the duck, *Ka-tci-na*, an animistic deity, is

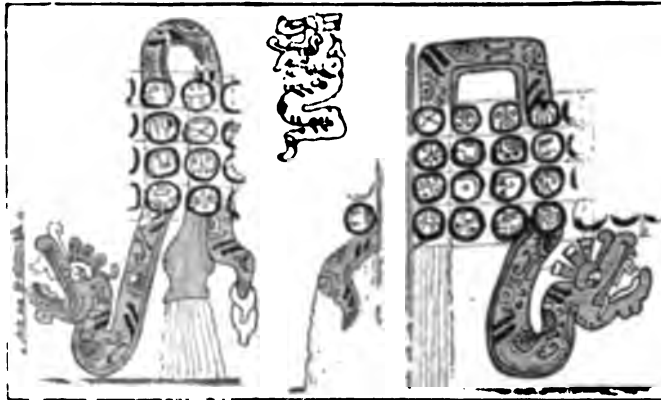


PLATE III.—Mayan rain-god, after Landa's Codex.

Fig. 1.—The Rain Cloud and Serpent.*

the one who interceded with the rain-cloud, *O-mow-uh*, which causes the rain, the association of the duck with water making it a suitable symbol, as the association of the frog with water makes the frog's feet also a suitable symbol.

The serpent is supposed by Dr. Thomas to refer in one case to an eclipse of the sun, as the sun in the heavens is surrounded by the clouds, and the great plumed serpent is in the act of swallowing it. This is unusual, for the serpent is generally represented in the codices as flying through the air in the midst of a rain-storm, and is frequently decorated with the rain marks and has the

* The form of the rain-god is seen between the two serpents. We may see (1) the protruding tongue hanging down in front of the mouth, (2) the curved tongue or bird tongue hanging from the mouth, (3) tooth-like figures in upper jaw, (4) trident ear ornament, (5) appendages to the top of the helmet, resembling the Atlatl or "spear thrower", (6) the S-shaped figure for an eye. The eye is the symbol of divinity among all the western tribes. Among the Haudas it was almond-shaped, and was placed on every part of the body, to show that every separate limb was possessed by a divinity. Among the Aztecs it was formed by a heavy horizontal line, with a double semi-circle below. Among the Mayas the Tlaloc eye was a dark spot or globe surrounded by concentric circles. In this case the Kukulcan eye was a small dot or ring, bounded below by an S-shaped figure with rectangular blocks attached.

same or a similar crest upon its head, and generally the same open mouth. Dr. Fewkes has called attention to the remarkable similarity in these decorations and symbols as seen by him among the Hopi and examined in the Mayas codices. He says: On the top it bears a crest of radiating marks, which represent feathers. There are two parallel marks, alternating with other symbols on the body. The same marks are seen on the mythologic snake of the codex, six in number, but set obliquely to the axis of the body. The head of the plumed snake is decorated with a head-dress composed of three feathers, which rise from the curved lines of the eye, over the nose there is a red-colored object enlarged at the end; the upper jaw has two teeth; the open mouth has red lips, and from the mouth extends a curved tongue. There is a vasiform object connected with the body of the serpent, from which the rain seems to be falling in streams. These remind us of the Hopi pictographs of the plumed serpent, which is represented with four udders, from which the waters of the world, according to the folklore tales, are supposed to come. The feathered snakes in the sculptured bas-reliefs at Palenque are said to be marked in the same way as those in the codices, and in a manner resemble those of the Hopi effigies and pictographs. There are several figures of the plumed serpent Balulukan on a rock near Walpi.



Fig. 5.

Below these is the symbol of the sun and in front of them is *O-mow-uh*, the symbol of the rain-cloud.

There were many festivals which had regard to the rain-gods, among the civilized races, in which the ceremonies were very analogous to those which were observed by the tribes of the interior. Dr. Walter Fewkes has called attention to one of these festivals, which he calls the "festival of the water pancakes." This took place every eight years.

At this festival the statue of Tlaloc, the Mexican rain-god, was placed near a pool of water, where were snakes and frogs, and certain men, who were actors, stood on the edge of the pool and seized the snakes and live frogs with their mouths and began to dance, swallowing as they danced around the shrine of the water-god, thus reminding us of the "snake-dance" and "flute ceremonial." Mr. Fewkes says the Hopi celebrate a feast in which "all the gods dance," called *Kateina*. The name of the deity gives the name to the dance. The participants clothe themselves and wear masks and head-dresses.

The amnistic deities who were personated here are, to be sure,

different from those personated by the northern tribes, for among them the larger animals, such as the antelope, bear, wolf, panther, eagle and mole, are the gods of the different quarters of the sky, and are generally represented in the feasts either by images or fetiches, or by men who personate them. There are, however, certain symbolic vases on which butterflies, birds, beetles and spiders are depicted, and these show that in ancient times these smaller creatures, insects, were regarded as divinities.

(4) The wearing of masks by the personators of the rain-gods was another custom connected with serpent worship. To illustrate: Mr. J. Walter Fewkes has described the festival of the Mayas, which he calls "the festival of the water pancakes." In it the



Fig. 6.—The Rain-god Kukulkan *

men disguised themselves in masks and coverings so as to resemble butterflies, beetles, bees and owls, and came dancing to the feast, thus personating all the gods, who are said to have taken part and danced. There is, to be sure, no snake effigy in this dance, but there was that which corresponded.

Mr. J. Walter Fewkes says that there are general figures in the Maya codices which represent human beings personifying deities and wearing symbolic masks of animal-gods. One of the strongest similarities between the Mexican and Hopi ceremonials is seen in the colored masks; those of the Mexican being colored black, blue, pink, black with red flames, brown, and brown with white spots, making six; those of the Hopi being generally white, blue, yellow, red, spotted and black. The colors differ, but the number shows that there was the same division of the sky.

The masks of the Hopi and Mexican are identical, the teeth,

* The rain-god is symbolized by the mask on which is the fang and the corona, which is the curved staff and nodes.

lips, eyes, and feathers on the back of the head are the same, but the Mexicans wear apparently whole skins of the animal, while the Hopi wear only the head. One of the best instances of resemblance can be seen in the *Codex Cortesianus*, in which we have the four rain-gods "Bacab," represented as snake deities. In these the head-dress worn by the human figure is the same as that worn by the snake. The peculiarity of the head-dress is that there is a long nose, a crooked fang protruding from the mouth, a scroll around the eye, and peculiar crest above the head. It is probable that the human figure represents the personal god and that the snake represents the nature power. The two are associated because both were rain-gods, for the mask is always a symbol of transformation. Persons who wear the mask are supposed to have been actually transformed into the deities they represent. The person who was to be sacrificed in honor of the war-god was dressed for forty days in the same clothing as the god which he personifies. The masks of the Moqui and the Mexican representatives are identical, for the teeth, lips, eyes and back of the head are the same in both. The animistic deities are supposed to be the gods of "world quarters," and have colors which correspond.*

(5.) Another evidence is presented by the so-called "rain races," which prevailed among the Moquis. One of these races has been described as connected with the celebrated snake dance. A race similar to this is described by Dr. W. J. Fewkes as occurring in connection with a woman's dance called *La-la-kon ta*. In this race there were two cloud figures painted across the trail. There were girls, who carried on their backs cornstalks, melon and squash vines, and in their hands melons and beans. They were dressed in white blankets with black garments around their waists, and white feathers on their heads. They brought the cornstalks and vines from the cornfields and carried them to the altar, on which was painted the figure of cloud ornaments and lightning snakes, before which were idols painted black and white, to represent the rain. At midnight they watched the position of the constellation of Orion and the Pleiades in it, when the medicine bowl, the rock crystals, the sacred pipe, the sand-paintings were brought out and the ceremony of running the "rain race begun," accompanied with singing. The race was in front of a line of women and through nial clouds, but was won by the girl who wore the cloud garments. This race may have represented the wind rushing through the clouds, though the dress of the runners symbolized the black and white clouds.

The four cloud symbols in this case were made near the kiva at the end of the course. The final ceremony consisted in a dance in which the thirty-six women took their place; these

*The colors of the world quarters used by the Hopi are similar to those of the Mexicans and Mayas; they are used here to contrast with those used by the Navahoes.

women wore embroidered blankets, some of them being white, with red borders, others blue. They carried flat baskets, which were symbolically adorned, and ears of corn, and prayer plumes in their hands. In this dance two women, who were priestesses, appeared, fancifully dressed, having black streaks across the eyebrows, feet, hands and arms painted yellow, wore embroidered dance kilts and a long fanciful head-dress. The peculiarity of this dance was that the dancers stood in the form of a horseshoe instead of a circle.

(6.) The effect of the rain-cloud upon the crops seems to have been symbolized by the serpent symbol by the three peoples—the Zunis, the Nahuas and the Mayas. Among all of them the serpent was the symbol of the rain-cloud, but it is generally attended with the symbols of the corn and falling rain, showing that it was a beneficent god and the source of growth to the crops. To illustrate: In the Dresden Codex we find the figure of the serpent coiled around the tree, which is draped, and before the serpent are vessels with ears of maize, fish and other articles, which were probably offerings made to the gods.* In front of these is a priest draped in a peculiar manner, holding a decapitated bird in his hand. In the Codex Troano the serpent is in three of the plates, coiled under clay vessels, but the vessels bear kan (or maize) symbols. In the Codex Cortesianus, the serpent appears amid rain-drops, but bears on its back the long-nosed god Zamna or Kukulcan. It is worthy of notice that one of the names of the chief deity, Zamna, signifies "the dew of heaven," or "substance from heaven," and it contains throughout the idea of food or "that which sustains life." It is also probable that the symbol for Kan was freely used to represent a grain of corn.

The Borgian Codex also contains four symbolic serpents. On these serpents we see the leather head, the projecting spines, the circles which indicate the joints, and the ornamented tail. Near the tail of each is the symbol of an altar. Within the squares are four human figures, each one having attached to the different parts of his body the various symbols of the days of the month, twenty in all. The head-dresses are ornamented differently. In one there is an eagle, in another two crosses, in another a simple band; in the fourth, plumes and spiders. The

*See Plate IX. of Dresden Codex, on page 100.

†See Thomas's Study of the Manuscript Troano, page 40.

In each of the three colored plates given by Dr. Thomas in his monograph there is, in the upper division, a figure of the priest, with a planting stick, in his left hand and balls falling from his right hand. A mask resembling the head of a fox surmounts the head of the priest. In front of the priest is a large vessel resting upon a coiled serpent. Above the vessel are three kan, or maize symbols, giving the idea that the vessel was full of corn. Above the maize symbols, in one plate, is a bunch of reeds, which symbolize water; in another is a bird, which symbolizes the sun, at the left of the vessel, in Plate XXII, there are two human figures in the act of falling, arms and legs spread out. The lower one is represented as having rain falling from between his shoulders. These probably symbolize the rain d. v. n. t. e. s. as descending to the earth. In the third, Plate XXIII, a squatting human figure holds a torch in his left hand toward the sun-bird. Here, then, again we have the four elements as well as the corn planting symbolized in a codex.

who remained after the deluge. In some of the codices she is attended with a symbol of a mountain range, where the "storms are formed," and is the "storm brewing" goddess. In others, the giver of beneficial and fructifying rains. In the former the eye simply shows the lightning flash, in the latter it is surrounded by the curved Tlaloc sign, or what is supposed to be the Tlaloc eye.

The Mexican war-god *Huitzilopochtli* is, however, sometimes represented as a rain-cloud, and has the accompanying serpent. For instance, in the Leyden stone the feathers, the shield, the snake-belt, the arrows and spear and the attitude betoken a war-like deity. The accompanying serpent also clearly denotes a rain cloud—the rain pours down in fearful torrents. On each side is the death symbol. He is accompanied by Tlaloc, clothed in black and bearing on his arm a shield, on which is a symbol of "wind," betokening a storm and a whirl-wind. In his right hand is a spear-hurler or lightning symbol. In front of him is the idol or figure upon whose head the torrents are descending, and upon whom the angry Tlaloc appears to be venting his wrath, but at the head of this god is a frog-like animal, which is the symbol of abundant water. Bancroft says that the Mexican god is a snake god. The snake signifies, in one case, time; in another, war; in another, water; in another, the yearly rejuvenating of germs and blossoms; in another, the eternal divination of nature, "sooth-saying." Dr. Thomas says that Tlaloc is attended with his four *Chacs*, or servants, which are the symbols of the four cardinal points and represent the rain-givers of the four quarters. Moisture is represented in the form of a serpent with a Tlaloc head to denote its beneficial and fertilizing influence. Tlaloc, who has been riding upon a cloud serpent, starts upon his descent to earth, bearing a vase filled with corn and a vine loaded with fruit, symbols of abundance of food.* In another codex "a snake-cloud floats along, the crimson lining indicating the effect of the setting sun." On the head stands Tlaloc, while he pours out the rain from the inverted vase in his hands. In another part stands a goddess who represents the mountain range from which the rains of the region mostly come. The rain flows out from the skirts and down the sides. The serpent though, the embryo cloud, is on the summit, through which the lightning is playing.

In another plate two deities, representing the parched and dry earth, are looking up toward the heavens, as if supplicating rain

*A vase has lately been acquired by the museum of the University of Pennsylvania, on which are hieroglyphs identical with those of the Maya codices. On one side is the conventional sign of a serpent or water-god. Below the rim or lip is an encircling band, in which are six kneeling masked worshipers, three of them priests, wearing conical hats, three novices, their head-dress adorned with feathers. The priests hold a planting stick in the hand, three of which are weighted with stone rings. This vessel was painted a dark red pigment, after the style in the Dresden codex, and was probably a sacred vessel for the use of the temple.

upon the planted and sprouting maize, the emblems of which they bear in their hands. The lower figures represent gods of death. They have in one hand the bread symbol, in the other that of the sprouting corn. "The blue serpent-like figure with purple margin, is intended for the symbol of a floating cloud." Tlaloc rests quietly on one of the curves with a "chac," or "bacab" in front. In another plate we have the history of the plant and its struggles. Two Tlaloc figures are opening a hole in the soil with a pointed wooden stick. They are dropping balls—five (the usual number), which symbolize the five grains of maize. In another place we see a bird picking up seed before it is sprouted, a small fox-like quadruped seizing it after it has sprouted, and quadrupeds, birds and worms attacking it. In one case there are three worms, at different heights, signifying that the root, foliage and fruit were attacked.

The figures of Zamna, one of the chief Maya deities or culture heroes, frequently appears in these codices, in connection with agricultural subjects. The pictures represent that Zamna was the protector of the growing corn or its equivalent; for he has a parti-colored face, and is contending with the bird, fox and worm, which are the enemies of the maize.*

Dr. Fewkes has referred to the long-nosed god which is represented in the Codex Cortesianus. He says of the thirty-eight figures, that four are in the act of planting; one holds a bowl to receive water; one empties water from a bowl; five have a hatchet-like implement in the hand; five carry a torch or brazier, two hold a mask, and two a kan (maize) symbol. In several figures the long-nosed god has the planting stick in the left hand and what appear to be seeds falling from the right. Three of the figures have the squatting posture universally taken by the participants in the Hopi ceremonies. The mask, in all the figures, rests on the shoulders, and has the snake-like fang, the crooked nose, curve about the eye, and the projection above the nose †. The bodies are sometimes represented with arms and legs spread out, sometimes seated upon the body of the snake, sometimes falling from the clouds, sometimes the snake draws its form across the body of the god, but generally the serpents have the body in a quadrate figure enclosing falling water, thus indicating that the four rain gods of the world-quarters were represented. This reminds us of the Tusayan sand paintings, in which there was a sun cloud and an accompanying priest for each of the cardinal points.

Dr. Selser says that one of the things in the ancient Maya life which is widely esteemed as the most necessary to existence was

* See Ellis's Study of the Manuscript Trovador, pages 108-110.

† This figure reminds us of the Horn on the head of the snake by which, according to the eastern tribes, the Cherokees, the Hurons, the Senecas and others, he was able to penetrate their forts.

the beautiful Indian corn. Schellhaus gives reasons for considering the hieroglyphic kan as the symbol of the field of maize and points out many instances in which it was held in the hands of different deities. Among the Hopis, where the maize is the national food, the symbol is frequently used in religious ceremonies, and it would be a most extraordinary exception if, among all the symbols used in the codices, the symbol of the maize should have any subordination. It is universally agreed that Kukulcan is the proper name for the snake rain-god, and it is probable that the figures of the long-nosed god can be identified as the Maya Kukulcan or snake rain-god, and corresponds to Tlaloc, who is also the Nahua rain-god, all of whom are represented in connection with the serpent and the rain, and are supposed to be the benefactors of their people and the gods who bless the crops of maize.*

In reference to this, several of the archæologists have recognized the world-quarter symbols in connection with the long-nosed god, and have concluded that there were among the Mayas, as well as among the Tusayans, a rain-god for each cardinal point.

Our conclusion, then, drawn from analogies of the figures and symbols which are found in the different parts of the continent, is that the snake was not only a water divinity, but among many of the advanced tribes he was regarded as an anthropomorphic divinity, which personified the rain, a conclusion which has been reached by nearly all who have studied the subject.

We now turn to the analogies between these ceremonies and those practiced elsewhere. We have considered the worship of rain gods, weather-gods, gods of the different world-quarters, and of the natural powers prevailing among tribes of the interior, such as the Zunis, Moquis, Hopis and Navajoes. We find that there was a similar worship of the nature powers among the various tribes and races of the southwest provinces, such as the Nahuas and Mayas, and that the analogies between them become more striking as we study them more minutely. Some of these analogies have been brought out by J. W. Fewkes, but there are others. In fact, the resemblances are so numerous as to give rise to the question whether there was not a transmission of these symbols from tribe to tribe, those having the same occupation having adopted the same symbols and having worshiped the same divinities, though with variations of form and imagery; the

*The sun-paint appears in the Palenque cross in the shape of a cruciform tree, but was perhaps regarded as a divinity whose personal nature is symbolized by the faces hidden among the leaves or branches of the cross. At the same time the rain-god appears in connection with the maize in the head of the cross contains the face of Tlaloc, the rain-god, around which hangs a necklace and a medalion, the image of the sun rests upon the summit of the cross in the form of a bird, the Quetzal, with peculiar head-gear. The two priests stand on a re-plants, and one of them offers an image, which may be a symbol of life, to the sun-god. Mr. Francis Parry explains this in the following manner: While the shrine was erected to the praise of the god for the fruits of the earth, it was for maize more particularly that the thanks were given, a monument in stone of the value set upon the development of the cultivation of the maize. The faces, he thinks, were portraits of the priests, who were the worshippers of the Kukulcan, the cross.

"secret societies" or "sacred mysteries" having been the channels through which these rituals were transferred. There were three centers of development—one among the Pueblos in Arizona and New Mexico, one among the Nahuas in New Mexico, the third among the Mayas in Yucatan, Honduras and other provinces, for the same symbolism is found in the three centers, and very similar ceremonials, the main difference being that those of the Pueblos were very rude, as were the people practicing them; those of the Nahuas were very full of blood-thirsty rites and horrid figures, such as were natural to the people, but those of the Mayas were full of the elaborate and complicated adornments as become the people, who were given to luxury and advanced art. In treating of the analogies we shall bear these peculiarities in mind, for the comparison will otherwise fail to have its proper force. We may say, however, that no other portion of the continent furnishes so close resemblances as do these localities, which were occupied by the ancient Cliff dwellers, the pyramid-building Aztecs, Nahuas and the temple-building Mayas. The region occupied by the wild hunter tribes and the agricultural tribes seem to have had symbols and ceremonies which were almost as significant as those of the partially civilized, the thunder-bird being the predominant symbol of the hunters, as the sun-circle was among the agriculturists. The serpent was also a common symbol among them, but it is a question whether the triangle,* the oval and the coil were used by them, and, if used, they had the same significance. We may say that the serpent seems to have embodied the Scandinavian myth of *Idrasil* and *Nidhogg*, and it may be that the serpent in the southwest provinces embodied the Hindoo tradition of the world-encircling dragon or snake.

*The triangle was an Indian symbol in form of the Mexican Indians, as it was frequently seen on pottery, alternating with the stepped figure, which is always a symbol of the clouds, and the sacred spaces of the sky. Mr. F. H. Cushing thinks it had the force attached to the fan—at three dots. It is remarkable, however, that the triangular space, the circular space, the stepped pyramid and the oval symbol are all found on one single fragment of an ancient pottery vessel, which was taken from the Cliff-dwellings and is now in the possession of the writer. These are symbols of the sun, the cloud, the wind, and perhaps the earth. If the symbols are combined together in one sacred vessel.

OUR NEXT VOLUME.

We are happy to state that the volume for 1895 promises to be a remarkably valuable one. We shall in this volume give considerable space to the discoveries and explorations in Bible lands. In this, we shall have the assistance of the Rev. Wm. C. Winslow, LL. D., and of Prof. T. F. Wright, of Harvard, and hope to secure the assistance of Prof. Hilprecht, of the University of Pennsylvania, and of Mr. Isaac Hall, of the Metropolitan Museum of New York, and of Dr. W. H. Ward, who has just finished a catalogue of the Babylonian Seals. In the line of Polynesian and Asiatic antiquities and races, we shall have the assistance of Hon. James Wickersham, Dr. Cyrus Thomas and Rev. Dr. Edkins, of China, and several others. In the department of Central American Archæology we shall have the assistance of Marshall H. Saville, curator in the Natural History Museum of New York, who will furnish notes regularly on Central American antiquities and symbols. We also expect contributions from Dr. D. G. Brinton and J. Walter Fewkes on the subject of codices. In the department of Paleolithics in Europe and America, we have the promise of the assistance of Prof. Henry W. Haynes and Dr. H. C. Mercer. In the line of Folk Lore we shall have the assistance of Mrs. Helen M. Bassett, secretary of the International Folk-Lore Society of Chicago, and Mr. James Deans, Rev. M. Fells, and others. In the department of Indian Linguistics, Dr. A. S. Gatschet, who has been so long our valued and reliable associate, will continue his notes. Drs. Wallace Tooker, A. F. Chamberlain, W. M. Beauchamp and others will furnish contributions on the Indian tribes.

There will be a new and interesting department in the next volume, viz.: that of Comparative Religions, to which we expect valuable contributions from some of the most prominent scholars in Europe. The editor in chief will have charge of this department.

We hope that our patrons will recommend the journal to their friends and so help increase the circulation.

EGYPTOLOGICAL NOTES.

BY WILLIAM C. WINSLOW, LL. D.

SIXTH DYNASTY SOLDIERS.—How the Egyptian soldier of this remote period appeared, manœvered and marched, may be seen by an interesting "find" in a tomb at Assiut, some particulars of which are described by an Egypt Exploration Fund correspondent at Cairo, in October. I epitomize from his letter: The battalion in question is in two squads of forty figures each, each squad fixed to a wooden board, and in marching array. The first squad are probably Egyptian; the figures are of wood, and are about thirteen inches high, with little variations. They are clad in a loin-cloth, white or yellowish in color, reaching more than half way to the knee, while their weapons consist of spear and shield. The spears are about the height of the men themselves, and are carried vertically, with the butts at the level of the knee. The heads are bronze; the shields, eight inches from top to bottom, have a square base and come to a point at the top; their surface bears traces of paint, some of the lines resembling the bars on heraldic shields. There seem to be no officers, and we may take the squad to represent the average infantry of that period.

Egypt had its "colored troops;" accordingly the second squad are black-skinned, with scanty clothing about the loins, each man carrying four arrows in his right hand and a bow in his left. The arrows are tipped with flint, brought to a broad, smooth edge. Captain Lyons, the correspondent, thinks the latter squad belonged to the irregular forces. As each man marches loosely, the forty may have been a body of sharpshooters. But four shots to a man is not, however, after the Winchesterian method of to-day.

The white troops are taller, the black troops are irregular in size; the former being more like picked men and under severer discipline.

A TWELFTH DYNASTY BOAT.—An Assiut tomb of this period yields a fine model of a boat. It is five feet long and fifteen inches broad. It is fully decked over, and the after part of the deck is occupied by a two-roomed cabin. Each room door bears the portrait of the owner of the tomb, with his titles. Five figures are seated in the forward cabin; two on the forward deck and two others standing in the bow.

THE TEMPLE OF QUEEN HATASU continues to be a point of absorbing interest in Egyptian archæology, now that Dr.

Naville is far advanced in his work at that site. He considers that the altar chamber in its unique character throws a great light upon the "religious revolution" which occurred at the close of the Eighteenth Dynasty, and which was not so much a revolution as a protest against the too great power which had been acquired by the priests of Amon as against the empire in general. The whole construction of the temple resembles those of Greece, and the opening to the world of such an edifice, even in its ruins, bids fair to be an important item in solving the origin of Greek architecture and art.

Dr. Hagarth, on the staff of Egypt, remarked at the meeting of the Egypt Exploration Fund, on October 26, that coming as he had, from Greece, and a study of Hellenic art, he had been astonished by the extraordinary beauty of the work at Deir-el-Bahari. He had never seen anything finer than the famous terrace of Punt (depicting the naval expedition of Queen Hatasu), and now Dr. Naville had opened another terrace quite as superb in execution.

No less than three advance copies of new publications by the Fund were laid on the table at the annual meeting. "Deir-el-Bahari I" is the introductory volume to the books on the temple built by Hatasu. These volumes will exceed anything yet issued by the society. Mr. Howard Carter's drawings of the mural scenes are to be half the original size. "El Bersheh," the third volume of the Survey, contains thirty-five plates. The Archaeological Report (*brochure*) for 1894 contains a brief account of our own and all other excavations made in Egypt during the season of 1893-94; an editorial report by Mr. Griffith on the general progress of Egyptological Studies; a paper by Prof. Cecil Smith, on "Greco-Egyptian Antiquities," and one by Mr. F. G. Kenyon, on "Greco-Egyptian Literary Discoveries;" an article by Mr. W. E. Crum, on "Coptic Studies," demonstrating the value of the latter phase of the Egyptian language towards completing the connected history of the whole. The maps have been brought up to date, and the illustrations consist of a plan and three views of the temple at Deir-el-Bahari.

Let me remind all readers of these "Notes" that a single subscription of but five dollars secures this *brochure*, also the illustrated quarto volume of the season (or any other selected volume), and the Annual Report. No other archaeological or historical society, dependent on subscription, makes so rich a return. Only an increased list of subscribers can keep our explorers at work.

Sir John Fowler remarked at the Fund meeting that the temples at Philae are now under the protection of the whole civilized world, and that there is no longer any fear of their

being destroyed by the construction of a dam to retain the waters of the Nile for irrigation. But quite as serious a matter as the proposed submersion of Philae is the mutilation of sculptures every year by the tourist and vendor of antiquities. Here a little, there a little, in the aggregate do irreparable damage.

NOTES ON COMPARATIVE RELIGION.

SACRED POWDERS.—Captain John G. Bourke, in the ninth annual report of the Ethnological Bureau, has given a description of the sacred powders and bread offerings of the different tribes. His remarks upon the use of powders among the Apaches are interesting. The myth of the Apaches is that the divinity scattered sacred powder over the surface of the sky to make the milky way. Sacred powder is used by the Mexicans in ceremonies connected with the water deities. The Peruvians had a powder of different colored maize ground up with sea shells. The Ojibwas had a white powder. The Aztecs threw a powder on the faces of those whom they were to sacrifice. The Omaha medicine men sprinkled the body of the sick with the powder of artemisia, supposed to be the "food of the ghosts." The Haidas powder their hair with white feathers, and the Iroquois sprinkle their heads with white down. The use of powder was common among the ancients of the East, among the African tribes and among the Hindoos. The Zuni use a sacred meal in all their ceremonies. They place it in the form of a pyramid, resembling the phallus which the Egyptians offer to their deities. This powder was contained in sacred bowls of earthen-ware. They kept the air fairly misty with the clouds of it. Every morning of the year, at the rising of the morning star, they throw cornflower to the sun, they offer it to the sun for good rain and good crops. The use of unleavened bread or water pancakes was common among the ancient Mayas. They carried idols made of dough in processions. They made a wafer or cake which was divided in a sort of communion. The dough idol was broken into crumbs and distributed among the males and by them eaten after a manner of communion. Idols made of dough are to be found among the Mongols. The Peruvians signalized the arrival of their young men at manhood by a sort of communion, consisting of eating bread kneaded or mingled with the blood of victims, and they also made use of sacrificial cakes made with the blood of human victims, which were to be eaten at a mock alliance with the Inca. Phylacteries were worn by the Apaches in their religious ceremonies. These phylacteries were made up of a piece of buckskin inscribed with certain characters or symbols and worn by the sick persons who were to be benefited, as a secret or private charm. Medicine sashes and medicine shirts were worn by the medicine men. These shirts were made in the form of the ephod, which was common among Jews, they were decorated with symbols of the sun, of the serpent, of plants, and other objects. The serpents had feet like a dragon, the back covered with spines, the head in the form of a disk, with the symbol of the sun with rays painted on the disk. This is a novel form of a snake. There were amulets among the Apaches, on which are inscribed certain vine-like plants which have hands and feet and a crowned head, so as to make them resemble human beings.

NEW DISCOVERIES.

FIND OF MOUND-BUILDERS' RELICS.—The finds were made on the King farm, near Portage, above Alton, Illinois. The owner in setting out some grape vines came across a few relics. Probably the most valuable find was a set of flint knives or dirks set in bone handles. The flints are about four inches long, while the handles are about five inches long. The handles are of elk horn and are well preserved. Numerous earthen vessels were found. Some of these were handsomely decorated. A small copper ring was found. It is hollow and the ends are not welded. A fine lot of pipes was found, varying in weight from three pounds to an ounce. In color they were red, black and white. Parts of a big bowl were found. It had evidently been used as a culinary utensil, judging from its size. It is thought that the restored vessel would measure several feet across the top.

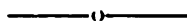
FIND OF INDIAN SKELETONS.—Thomas W. Clark, a landscape gardener employed in beautifying the grounds of several residents of Gross Isle, near Detroit, Michigan, has discovered a number of Indian relics during the past few days. The latest find consists of the skeletons of two Indians of mammoth proportions, together with two pipes of fine workmanship, an old knife, and two or three small trinkets of uncertain use. Out of the skulls fell huge bullets, which had evidently caused the death of their former owners. With these bodies were buried a large number of valuable relics. There were perhaps a dozen silver armlets or bracelets ornamented with delicate tracings representing deer and other animals. Two silver rings were found, one containing an emerald and a garnet and the other containing a diamond. A steel tomahawk of unusually fine workmanship was found, as was a silver locket and nearly a quart of brass rings. The skeletons are supposed to have belonged to members of Tecumseh's band, which engaged in several battles in the vicinity during the war of 1812.

AN EXPEDITION TO YUCATAN.—Mr. A. V. Armour has fitted out a yacht in New York harbor and will take a company of explorers to Yucatan. While the party has not been completely organized, it is settled that W. H. Holmes, curator of anthropology at Field Columbian Museum, and Dr. C. F. Millspaugh, curator of botany at the same institution, will be among the members. The entire expense of the trip is assumed by Mr. Armour, who was one of the original directors of the new museum, although he is not a member of the board at present. The excursion is made at his suggestion, and came as a surprise to the managers of the museum, few of whom were even aware that he numbered a Central American estate among his possessions.

THE BABYLONIAN EXPEDITION which was sent out by the University of Pennsylvania under Dr. Peters and Prof. Hilprecht, has been successful beyond all expectations. The report was sent by the United States minister at Constantinople to the secretary of state, that Prof. Hilprecht had reached that city with several tons of material which had been exhumed from the mound at Niffer; and that the discoveries which had been made

surpassed those of Layard, Rawlinson and Hormuzd Rassam; that the articles were likely to revolutionize history and carry the dates back at least ten centuries before Christ. Prof. Hilprecht has been engaged for several weeks in deciphering the inscriptions and studying the symbols. He is expected back at Philadelphia very soon.

FRAUDS IN MICHIGAN.—The find of pottery, a stamp and a coin in Montcalm county, Mich., described in our last number, turns out as we predicted, to be a fraud. Our correspondent, H. I. Smith, informs us that it is in the same locality where the remarkable pottery vessels containing Assyrian and Egyptian faces were found a few years ago. Is there no way of suppressing these operations? They do not deceive archaeologists, but, nevertheless, do much mischief.



BOOK REVIEWS.

Genesis and Semitic Tradition. By John D. Davis, Professor of Semitic Philology and Old Testament History in the Theological Seminary at Princeton, N. J. New York: Charles Scribner's Sons. 1894. 150 pp. 12mo. \$1.75.

The following sentence furnishes a key to the author's position in the book: "The Hebrew account is the intentional perpetuation of the basal doctrine of the origin of the universe; but the dedication of nature and the glorification of the sun are polytheistic amplifications." As proof of this the author cites the cosmogonies of people who lived as neighbors; in Etruria, Persia, Greece, India, Egypt and Phœnicia, which resemble the Semitic tradition, yet exaggerate the agency of the sun, though not one is a sun-myth. "Whatever sun-myth there is, is only an amplification of the primitive tradition." Still these have a common origin, the transmission having been by the Hebrews and Babylonians "from the broken and scattered remains of ancient Assyrian and Babylonian literature that has been recovered—a story of creation, notable facts, striking resemblance to the Hebrew account." The position of the author, however, is that the scriptures are the superior and in fact the only reliable record of the creation or of the early events of man's history. Prof. Davis's effort to contradict the analogies between Sanchoniathon and the scripture record is not successful, for surely learning how to nourish one's self from trees, generating fire by rubbing wood, making huts out of reeds, originating hunting and fishing, constructing villages, herding flocks and making ships, at least, are very natural events which the scriptures do not deny. That an ancient exogamous marriage is referred to under the language about the sons of God and the daughters of men does not seem to have occurred to the learned professor, though it may be that the argument for the antiquity of the peatatouch, as contrasted to the theory of the higher critics, would be stronger if this had been granted. The fact is that the science of ethnology has not been sufficiently studied by bible students, though its principles are becoming established so rapidly that they can not be ignored. We do not claim that the time has come for the scripture record to be harmonized with these any more than with the fundamentals of geology; but we believe that there is no conflict. The discrepancies are more in appearance than in reality.

The effort of Prof. Davis to work out the problem is certainly very commendable, and upon the whole satisfactory. He gives by far the best view of the difference between the bible and the common records of the monuments which has been written. We commend the book to our readers. It is inexpensive, but very instructive.

Studies in Oriental Social Life and Customs. From the Sacred pages. By H. Clay Trumbull. Philadelphia: Walters & Co. 1894.

The survival of ancient customs and practices is the one thing which impress the the traveler in Bible lands. It is, however, not often that an author will seize upon those customs which are so illustrative of primitive life in all parts of the globe and make them exclusively the object of his study. This Mr. Trumbull has unconsciously done, and so has given a book which is as valuable to the ethnologist and archaeologist, as to the Bible student. Take the following as an illustration: One of the unchangeable customs is giving gold and other gifts for a wife, looking at a bride as belonging to the mother of the bridegroom, giving the woman the undisputed right to her personal possessions. These are oriental and pertain to the patriarchal mode of life. In the system of matriarchy the man goes to the house or the mother of the bride, the children belong to that family, and only the personal property belongs to the bridegroom. The significance of the bridal veil is brought out by the scripture story of Rebecca and Isaac, but it still survives, as does the habit of welcoming the bridegroom. The voice of the bride and the voice of the bridegroom are still heard in the land. Veils are sometimes seen covering the faces in aboriginal pottery; does this have any significance as an aboriginal custom? "The friend of the bridegroom" still survives. The laws of hospitality are also the same. Lot entertained the strangers, and was in honor bound to defend them. There is a similar law among savages. There is one habit still extant which throws light on the ancient monuments. The most influential person can not be admitted to burial until a tribunal has sat to judge his conduct and acquitted him. So on the monuments the person was brought before the divinity, and a scribe makes a record of the decision before he is admitted to the burial. Road-building is another custom. This was a royal prerogative and a symbol of greatness. Upon the whole the book is both entertaining and instructive.

Certain Sand Mounds of the St. John's River, Florida. By Clarence B. Moore. Part I.

This folio volume is an application of field notes by Clarence B. Moore, who has been carrying on thorough excavations among the mounds of Florida for several years. He excavated the celebrated Mt. Royal mound and found not only human remains, but drinking cups made from conchs (fulgurs), and a large number of broken conchs, ninety-three arrow and lance points, sixty-one celts, six chisels, two spade-shaped ceremonial implements (cornplanter, perhaps), pendants or sinkers, a cylinder, beads of shell, pearls, vessels of pottery with the bottom missing, oblong dishes, four small bowls, colored pottery, copper disks, copper-coated beads, oblong sheets of copper made into ornaments, copper-coated ear-plugs. The most remarkable finds were in the Thursby mound, Volusia County. Some were superficial, mainly consisting of an iron ax, a gold ornament, a silver orna-

ment, and a deposit of pottery amazing in number and variety, representing forty-eight animal effigies, eight fishes, ten turtles, wildcats, bears, squirrels, wild turkeys, several otters, ear of corn, twelve acorns, sea urchins, concha, a dog, two hundred and ninety-two objects of pottery, four hundred and eight sherds. These were all rude, and Mr. Holmes thinks of comparatively recent origin. They are mere sports, can hardly be called symbols or even totems. The deposit was twenty-five feet long and six feet broad, was not more than one foot below the surface. The mound itself was a truncated cone, eleven feet high, one hundred feet across, and was built upon a deposit of shell. There was a mound at Cook's Ferry ten feet high, which contained a silver ornament and a gold disk, of Spanish origin; one at Kaulerson which contained a shell gorget, in which was an eight-rayed star with two circles and a perforated cross with a central square, the spaces around the cross and star being cut out. The most singular relics exhumed from the sand mounds were certain pottery vases or hemispherical objects which were open at both ends, the use of which is proving a puzzle to archaeologists. The pottery which was placed in the burial mounds, with the exception of the figurine effigies, was broken, perhaps to prevent robbery (or to let the soul out). Sherds and fragments were buried with bodies instead of whole vessels for the same reason they were. The work which Mr. Moore has done in Florida has been most thorough, and the manner of publishing most elegant; they are models of scientific work which will not fail to be admired by all archaeologists.

Art: Copper from the Mounds of the St. John's River, Florida. Reprinted from Part II. By Clarence B. Moore. Journal of Academy of Natural Science, of Philadelphia. Vol. X.

The analysis of the copper relics from the mounds reveals the great difference between pre-Columbian and post-Columbian specimens. The latter articles are really brass, rather than pure copper, for they have a slight alloy of silver, lead and other materials. The pre-Columbian have no such alloys, but average above ninety-nine per cent of pure copper. According to this analysis the majority of the copper relics from the St. John's River, Florida, are prehistoric, but those from some of the Ohio mounds are somewhat doubtful. A fragment of a breast plate from the Hopewell mounds, Ohio, was only ninety six and thirty one-hundredths per cent. An implement of copper furnished by W. K. Moorehead and five sheets of copper from Gerard Fouike averaged over ninety-nine. Copper rivets from New York vary from ninety-seven to ninety eight per cent. Copper from Lake Superior varies from ninety to ninety-nine per cent, and has silver present. The copper from the stone graves, of which 15,000 specimens have been found, is generally pure enough to be pre-Columbian. Another peculiarity of the copper specimens from Florida is the invariable lack of uniformity in size, shape and ornamentation. They contrast in this respect with the copper relics from the Hopewell mounds, for a large number of these were identical in shape.

Life in Ancient Egypt. Described by Adolph Erman, translated by H. M. Laing, with 425 illustrations in the text, and eleven plates. London and New York: Mac Millan & Co. 1894.

This is a beautiful book and one which will interest all archaeologists. It brings the subject of Egyptology up to date and is very valuable on that

